ENCE LIBRARY

Annual Number

The OIL AND GAS JOURNAL

FEB 1 1935

ODUCING

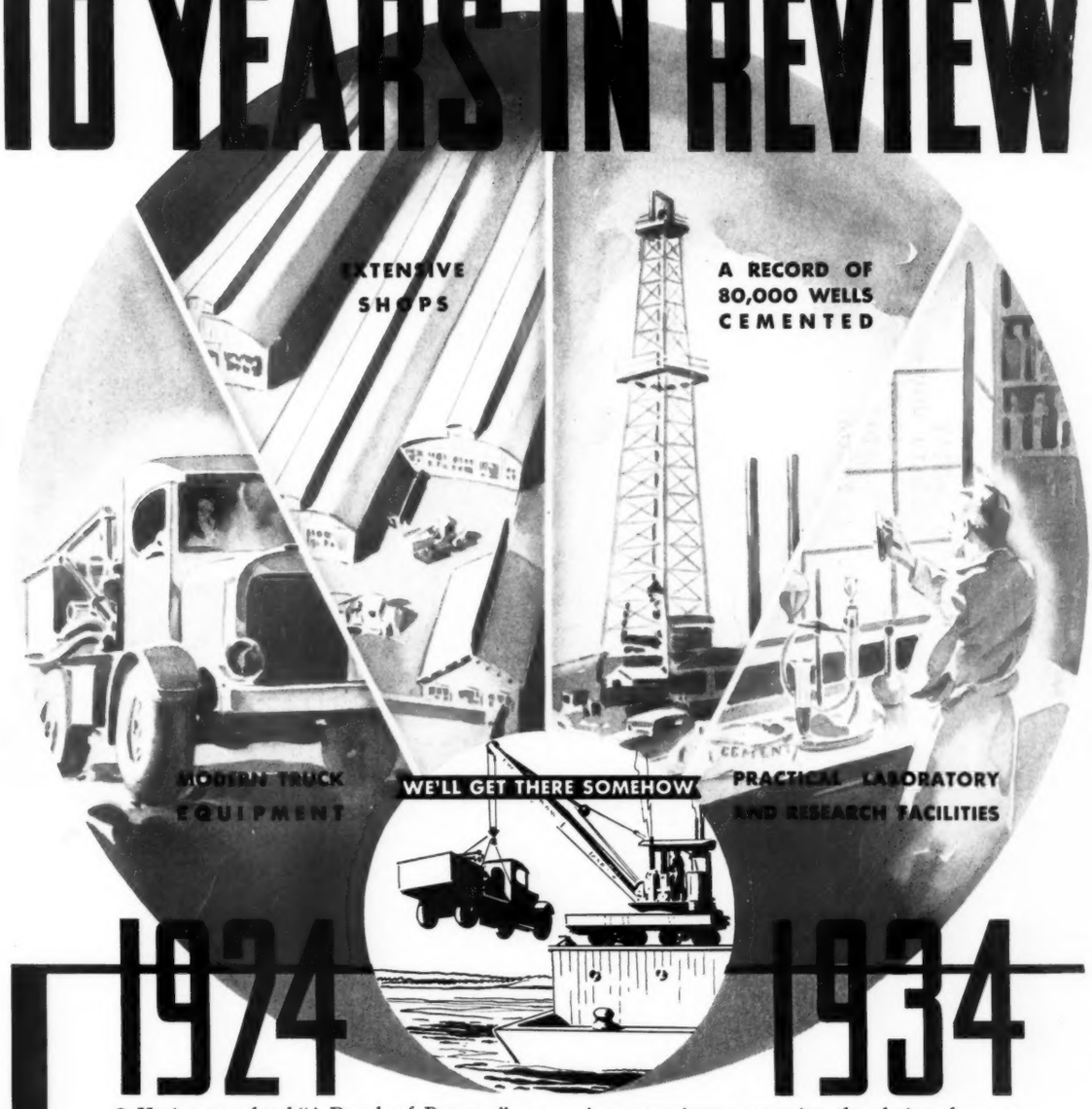
FINING

ATURAL
ASOLINE

PELINE

RKETING

10 YEARS IN REVIEW


EXTENSIVE SHOPS
A RECORD OF 80,000 WELLS CEMENTED
MODERN TRUCK EQUIPMENT
WE'LL GET THERE SOMEHOW
PRACTICAL LABORATORY AND RESEARCH FACILITIES

1924 1934

● Having completed "A Decade of Progress," as a corporation, it is appropriate that Halliburton should present—in this review number—a brief account of its service to the industry.

● Through its highly trained and experienced cementing organization, Halliburton has added to the productive life and safeguarded the investment involved in more than *80,000 wells* . . . Through constant research, it has perfected and made available to the industry, facilities which play a vital part in modern drilling practice. Among them are:

● MULTIPLE STAGE CEMENTING—Permits, in one continuous operation, the placing of two or more batches of cement at predetermined levels behind casing. Reduces pump pressure 50%.

● FULL-HOLE CEMENTING—Accomplishes an aim as old as the industry—greater drainage surface without added cost.

● HOWCO FLOATING EQUIPMENT—So coordinated in design with cementing procedure as to give maximum assurance of a successful job.

● HOWCO TESTER—Provides a dependable test of productivity without setting casing.

An interesting booklet, titled "A Decade of Progress," will soon be off the press. May we reserve a copy for you?

HALLIBURTON OIL WELL CEMENTING CO.

DUNCAN, OKLAHOMA

TULSA, OKLAHOMA JANUARY 31, 1935

Constant Progress

KEEPS MALONEY TANKS ALWAYS AHEAD

LOCATION OF MALONEY DISTRIBUTORS ASSURES EFFICIENT FIELD SERVICE

Adequate Stocks at Factory and All Distributing Points

MALONEY

TANK MANUFACTURING COMPANY

38 NORTH PEORIA . . . . TULSA, OKLAHOMA

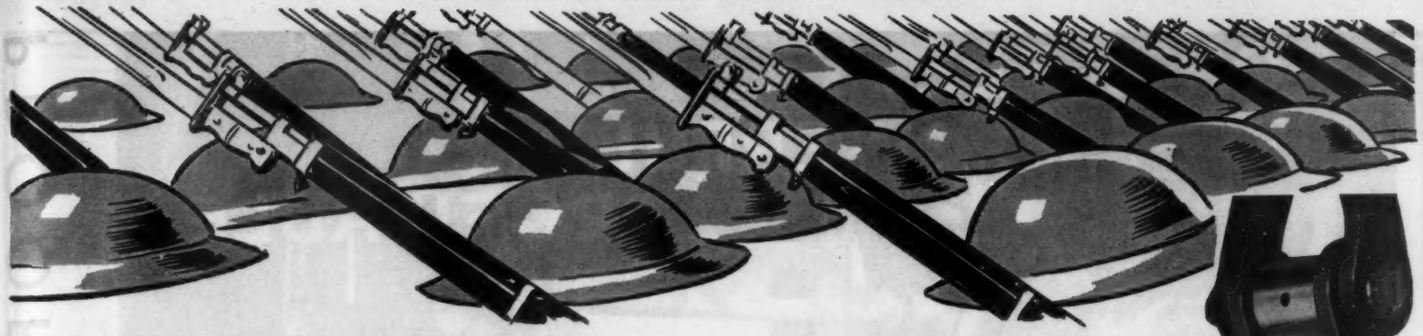
OKLAHOMA:
- Arch Bowman Sales Company, Tulsa.
- Hess Tank Company, Tulsa
- Frank Rudisell, Hominy
- Leugmors Tank Company, Barnsdall
- Mahlandt Tank Company, Oklahoma City
- Guthrie and McCoy, Seminole and Ada
- M-K Tank Company, Duncan

KANSAS:
- Perdue Tank Company, McPherson
- Sauder Tank Company, Madison
- Stevens Tank Company, Wichita and Great Bend

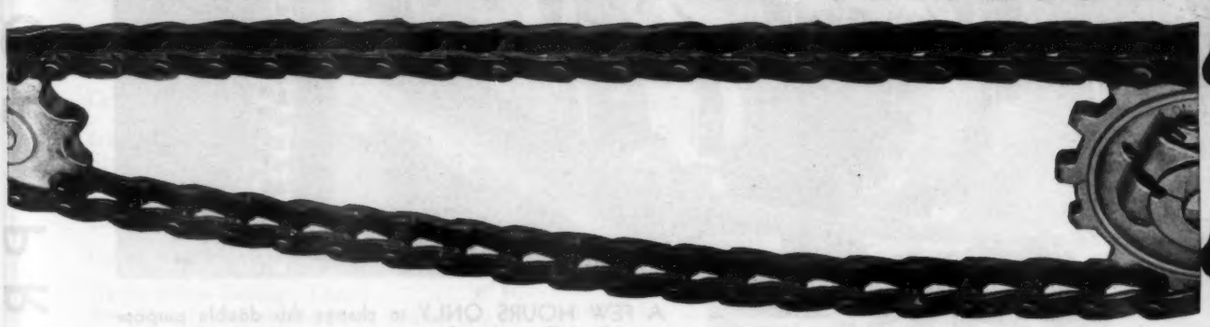
NEW MEXICO:
- Folkner and Folkner, Artesia

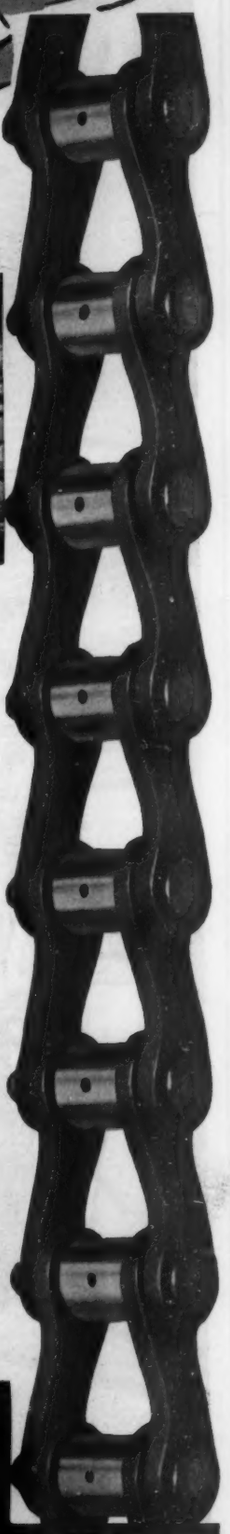
TEXAS:
- S. S. Staley Tank Company, Tyler—Houston—Bruni, Also Scott and Lafayette, La.
- N. B. Garner Tank Company, Wink
- Bradford and Buffington, Pampa

EXPORTERS:
- Hughes and Company, 67 Wall Street, New York City
- Rose Lloyd and Company, Ltd., London, England



HARD·TOUGH *and* STRONG





IT'S DEEPWELL

STRENGTH to carry the load of driving and lifting 8,000 or more feet of drill pipe.

TOUGHNESS to stand the shock loads of reversing under full power.

HARDNESS to resist the abrasive wear of steel meeting steel at high speed. All these qualities are produced by proper selection of alloy steels and further developed by modern, controlled heat treating.

With the Rex Unit Link, the chain rolls smoothly into, and out of, the sprockets. Pins are ground—bushings are ground, inside and out—wear will be slow to start on their smooth, close-fitting surfaces.

THE GREATEST CHAIN THAT EVER HIT THE OIL FIELDS

A Product of **CHAIN BELT COMPANY**

1619 WEST BRUCE STREET, MILWAUKEE, WIS.

ALSO MANUFACTURERS OF REX CHABELCO 1033 • REX CHABELCO 1244

Distributors

MID-CONTINENT AND GULF COAST DISTRIBUTORS

Decker Tool & Supply Co.
Frick-Reid Supply Corp.
Lucey Products Corp.
Murray-Brooks Hardware Co., Ltd.
Norvell-Wilder Supply Company
Rex Supply Company

CALIFORNIA DISTRIBUTORS—The Republic Supply Co. of Calif.

EXPORT

Chain Belt Co., Chrysler Bldg., New York
Lucey Export Corp., Woolworth Bldg., New York
William E. Knight, 2-3 Norfolk Street, Strand
London, W. C. 2, England

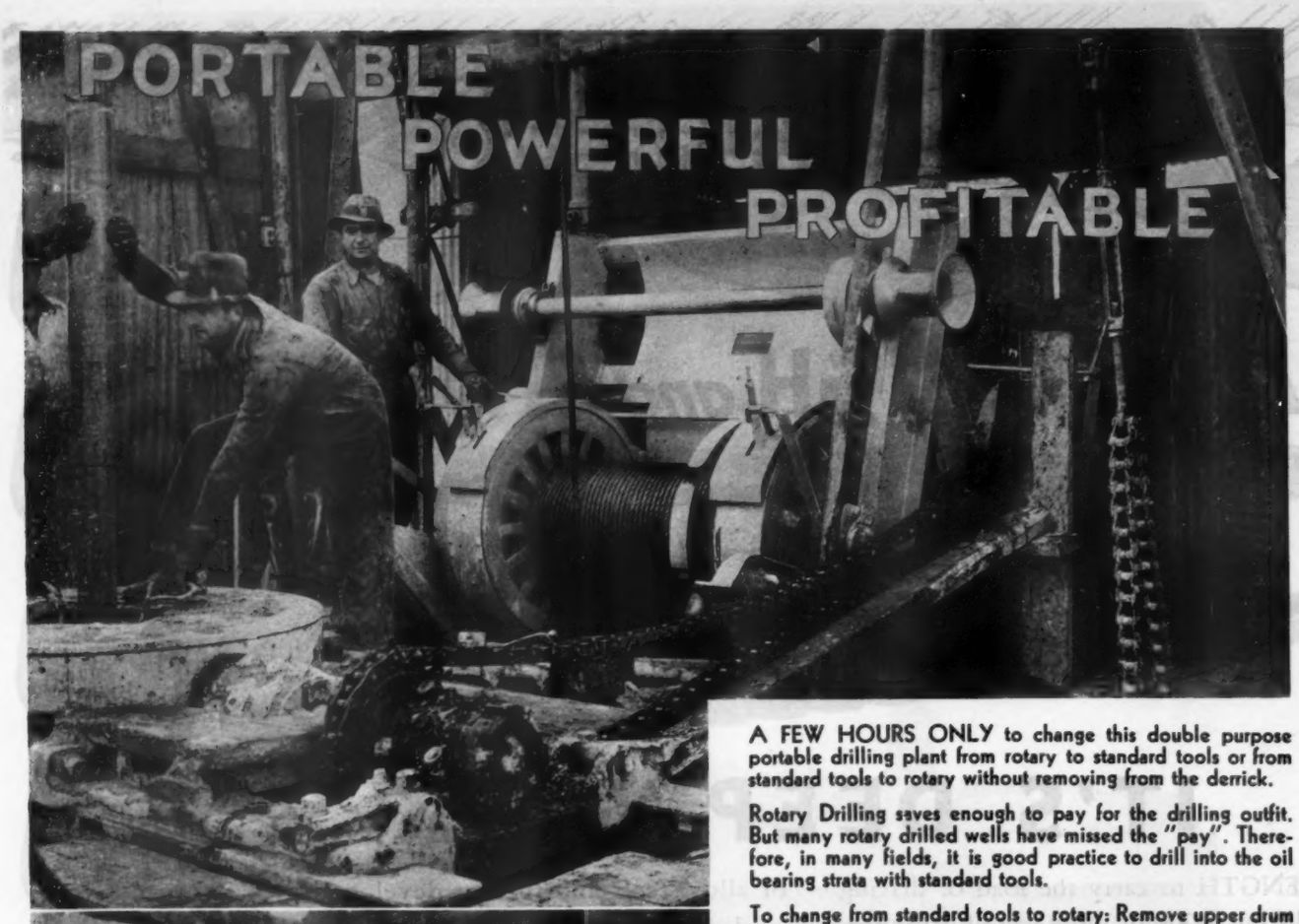
CHAIN BELT COMPANY

REX

DEEPWELL CHABELCO

©C. B. Co., 1934

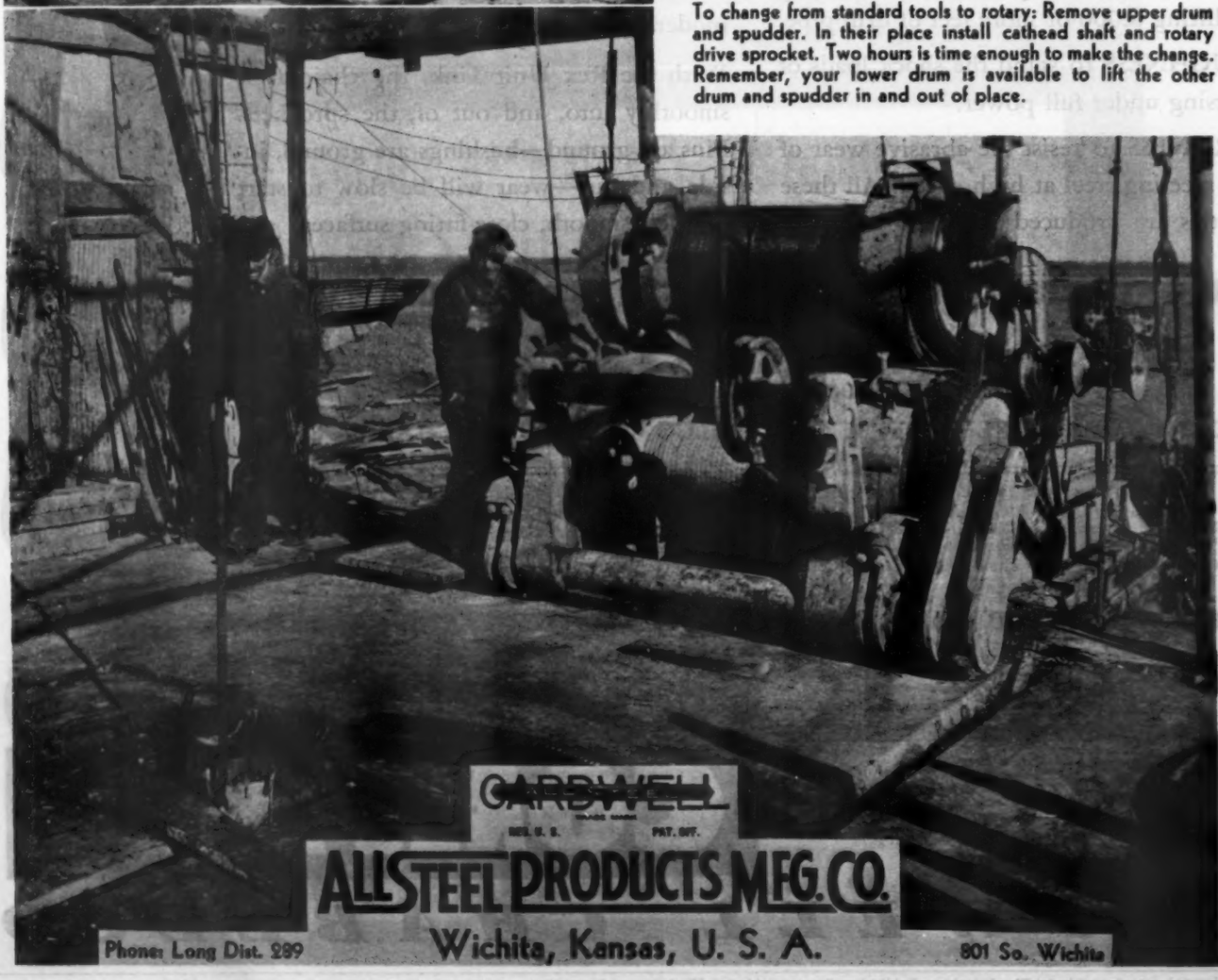
The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription prices: Domestic, $6.00 a year; foreign, $7.00 a year. Current copies (except special numbers), 15 cents each. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Okla., under the Act of March 3, 1879.



A FEW HOURS ONLY to change this double purpose portable drilling plant from rotary to standard tools or from standard tools to rotary without removing from the derrick.

Rotary Drilling saves enough to pay for the drilling outfit. But many rotary drilled wells have missed the "pay". Therefore, in many fields, it is good practice to drill into the oil bearing strata with standard tools.

To change from standard tools to rotary: Remove upper drum and spudder. In their place install cathead shaft and rotary drive sprocket. Two hours is time enough to make the change. Remember, your lower drum is available to lift the other drum and spudder in and out of place.



CARDWELL
REG. U. S. PAT. OFF.

ALLSTEEL PRODUCTS MFG. CO.

Phone: Long Dist. 289 Wichita, Kansas, U. S. A. 801 So. Wichita

PROOF OF PROFIT — NOT PROPHECY

PROOF OF PROFIT — NOT PROPHECY

THE OIL AND GAS JOURNAL

Volume 33
Number 37

January 31, 1935

SUBSCRIPTION RATES: Domestic, 1 year, $6; 6 months, $3. Canadian and foreign, 1 year, $7; 6 months, $3.50. All subscriptions payable in advance. When extra copies of special issues are available they are reserved for subscribers' needs and may be bought by subscribers at 50 cents each

SPECIAL ARTICLES

Summary of Situation ---- 5
By ANDREW M. ROWLEY
Cole Committee Splits on Bill ---- 8
By HUGH D. MALLON
Ickes' Decision on Elk Hills Case ---- 8
Small Returns (Cartoon) ---- 9
Unique Pipe Line Problems ---- 10-11
By ANDREW M. ROWLEY
East Texas Shipments Halted ---- 12
By L. G. E. BIGNELL
Conditions Force East Texas Drilling ---- 14
By L. E. BREDBERG
News From Foreign Lands ---- 16
New Domestic Demand Peak (Editorial) 20
Unusual Pipe Line River Crossing ---- 33
By NEIL WILLIAMS
Broadcast on Oil Industry ---- 35
By CHARLES L. SUHR
Oriskany Sandstone Possibilities ---- 113
By CHARLES R. FETTKE
Argentine Refinery Making Full Line ---- 115
Jersey Dividend Based on Skelly Stock 117
Preliminary A.I.M.E. Program ---- 119
Administrator's Report on Stocks ---- 125
Field Problems From Readers ---- 153
By T. F. SMILEY

ANNUAL REVIEW

Year's Production Totals 903,104,233 Bbls. ---- 6-7
By JAMES McINTYRE
18,197 Wells Completed in 1934 ---- 34
By JAMES McINTYRE
Price Wars and Gallonage Race Leave Mark ---- 36
By T. F. SMILEY
Service Station Prices in 1934 ---- 38
Map of Coastal Pools ---- 40
Better Average Refined Price in 1934 ---- 42
By W. T. ZIEGENHAIN
Refined Prices for Three Years ---- 43
Exports and Imports During Past Year 44
By C. O. WILLSON
Pipe Line Construction in 1934 ---- 47
Gas Lines Constructed in Year ---- 48
Changes in Crude Prices During 1934 50-52
California Prices Improved ---- 54
Rainbow Pool Arkansas Discovery ---- 57
Field Work Doubled in North Texas-Panhandle ---- 62
31 New Pools in Oklahoma in Year ---- 65
Kansas Breaks Production Record ---- 72
New Pools and Extensions in West Texas ---- 81
Discoveries in New Mexico, Rockies ---- 84
Canadian Production Increased ---- 91
East Texas Produced 178,500,411 Bbls. ---- 92
Busiest Year in Pennsylvania Since 1930 ---- 95
Michigan's Biggest Year ---- 96
New Peak on Gulf Coast ---- 98
15 Pools Opened in Southwest Texas ---- 106
Increase in Central West ---- 111

FIELD OPERATIONS

Late Fields ---- 32
Southwest Texas ---- 118
East Texas ---- 120
West and North Texas ---- 122
Gulf Coast ---- 129-130
Eastern Fields ---- 132
Central West ---- 132
Kansas ---- 133
Oklahoma ---- 134
California ---- 137
Michigan ---- 139
N. Louisiana-Arkansas, Mississippi ---- 140
Rocky Mountain Area ---- 141
Canada ---- 141

REFINING AND MARKETING

Group 3 Market ---- 22
By T. F. SMILEY
New York Market ---- 23
By C. O. WILLSON
A.P.I. Refinery Report ---- 23
Refinery and Crude Oil Prices ---- 24-25
Tank Wagon Markets ---- 26
News for Sales Departments ---- 27
News for Petroleum Refiners ---- 28
Chicago Market ---- 30
Technical Questions Answered ---- 145
By C. K. FRANCIS, Ph.D.
Natural Gasoline Manufacture ---- 146

GENERAL DEPARTMENTS

Natural Gas Developments ---- 148
Do You Remember? ---- 150
Personal Paragraphs ---- 150-151
Record of Oil Securities ---- 152
New Equipment ---- 157
Classified Advertising ---- 159
Index to Advertisers ---- 160

Refinery Section Starts on Page 22

OIL MAN'S CALENDAR

February

5-6—Des Moines, Iowa, Iowa Petroleum Association, Hotel Fort Des Moines.

7-8—Huron, S. D., South Dakota Oil Men's Association, Marvin Hughitt Hotel.

7-8—Louisville, Ky., Kentucky Petroleum Marketers Association.

12-14—Columbus, Ohio, Ohio Petroleum Marketers Association, annual dinner. Deshler-Wallick Hotel.

18-21—New York, Petroleum Division, A.I.M.E. (A.I.M.E. annual meeting).

20-21—Peoria, Ill., Illinois Petroleum Marketers Association, Pere Marquette Hotel.

March

21-23—Wichita, Kans., American Association of Petroleum Geologists, annual meeting.

April

2-3—New York, National Oil Burner Dealers Association, Pennsylvania Hotel.

8-13—Houston, Tex., Oil Equipment and Engineering Exposition.

11-13—Dallas, Tex., Petroleum Industry Electrical Association, Baker Hotel.

22—New York, American Chemical Society, semiannual meeting.

(?)—Wichita, Kans., Kansas Oil Men's Association.

May

1-3—Tulsa, Natural Gasoline Association of America, Hotel Tulsa.

6-9—Memphis, Tenn., Natural Gas Department, A.G.A., Peabody Hotel.

8-11—Tulsa, Oil and Gas Power Division of A.S.M.E., Mayo Hotel.

14-16—Tulsa, American Petroleum Institute, fifth mid-year meeting, Mayo Hotel.

June

20-21—State College, Pa., Pennsylvania Grade Crude Oil Association, annual meeting.

24-28—Detroit, Mich., American Society for Testing Materials, annual meeting, Book Cadillac Hotel.

November

4-5—Dallas, Tex., I.P.A.A. Annual Convention.

11-14—Los Angeles, sixteenth annual meeting, A.P.I., Los Angeles Biltmore Hotel.

Branch Editorial Offices

WASHINGTON	CHICAGO	DENVER	FORT WORTH	HOUSTON	LOS ANGELES	PITTSBURGH
Hugh D. Mallon	616 S. Michigan Ave.	Tolbert R. Ingram	L. E. Bredberg	Neil Williams	L. P. Stockman	P. O. Box 1344
808 Investment Bldg.		State Office Bldg.	Petroleum Bldg.	809-10 Sterling Bldg.	Union Oil Bldg.	

MUSKEGON	SHREVEPORT	TOLEDO	NEW YORK	OIL CITY	CHATHAM, ONT.
Paul A. Elliott	J. R. Crumpton	George A. Whitney	C. O. Willson	R. C. Conine	Victor Lauriston
Chronicle Bldg.	540 Ricou Brewster Bldg.	Box 98, Main P.O.	415 Lexington Ave.	Oil City Derrick	35 Stanley Ave.

Branch Advertising Offices

NEW YORK	CLEVELAND	CHICAGO	LOS ANGELES	HOUSTON
C. L. Cain	Howard Markt	C. R. Farmer	J. H. Tinkham	Paul T. Putnam
415 Lexington Ave.	802 Leader Bldg.	616 S. Michigan Ave.	2941 Raymond Ave.	809-10 Sterling Bldg.

Copyright, 1935, by The Petroleum Publishing Co.

GASOLINE CONSUMPTION REACHES NEW PEAK

THE latest report of the United States Bureau of Mines, covering domestic gasoline consumption for the first eleven months of 1934, indicates that even before December figures were obtainable, use of this commodity during the past year breaks all former records. This is of vital importance, since it reflects an increasing use of gasoline and a greater demand for refined petroleum products in 1935.

Although 50% more wells were drilled in 1934 than in the previous year, no extremely large pools were discovered. This would indicate that the producing division of the industry will be active throughout 1935.

With this cheering news leaders in the petroleum industry are considering plans that will enable their companies to keep abreast of the times. This bank is here to serve oil companies throughout the Mid-Continent Area and always ready and willing to discuss your oil financing problems with you.

DIRECTORS

M. M. DOAN, *Oil Investments*
F. L. DUNN, *Executive Vice President*
A. L. FARMER, *Farmer and Duran, Investments*
H. N. GREIS, *Oil Producer*
JOHN D. MAYO, *Mayo's Incorporated*
R. OTIS McCLINTOCK, *President*
F. B. PARRIOTT, *Oil Investments*
WAITE PHILLIPS, *Investments*
W. G. SKELLY, *President, Skelly Oil Company*

THE OIL BANK OF TULSA

THE FIRST NATIONAL BANK and TRUST COMPANY
TULSA, OKLAHOMA

Latest Court Orders and Threats of Suits Tend to Tighten Control of East Texas Shipments

By ANDREW M. ROWLEY

WHILE shipments from East Texas tended to increase during the past week and more activity was noticeable among hot oil producers and refiners credited with running on crude produced in excess of allowables, developments early this week were expected to have a salutary effect upon the whole situation. Shipments of products alleged to have been in storage on and before December 10 when the state tender law became effective, were halted by orders of the Civil Court of Appeals at Austin, Texas, after a number of operators had procured injunctions from other courts restraining the Railroad Commission from interfering with shipments. Railroad Commission employes failed to find much of the oil listed in applications made to courts in suits for injunctions.

Threats by the Railroad Commission to charge perjury in connection with affidavits filed with applications for injunctions to restrain the Commission from preventing shipments from East Texas may reduce the number of such applications being made and, possibly, will result in a more thorough examination of facts in each case before such injunctions are granted. Intimations that the Federal Government is prepared to take action against a number of East Texas operators and refiners for not filing tax returns is also causing some worry among certain persons in East Texas who heretofore have paid but very little attention to state rules and regulations.

These developments are expected to help strengthen the refined oil market which has been nervous since the United States Supreme Court knocked out Section 9(c) of the National Industrial Recovery Act and since many East Texas operators and refiners procured court injunctions which permitted them to ship out large quantities of crude oil and refined products.

Field developments during the past week seemed to emphasize the contention of those who claim new reserves are not being discovered in sufficient quantity or capacity to balance present consumption. California operators are planning more extensive wildcatting operations and indications there are for a substantial increase this year in prospecting work. Only one new pool was discovered in California last year despite the fact 70 per cent more wells were completed than were finished in 1933. There is some talk that California shipments to the East Coast probably will have to be curtailed.

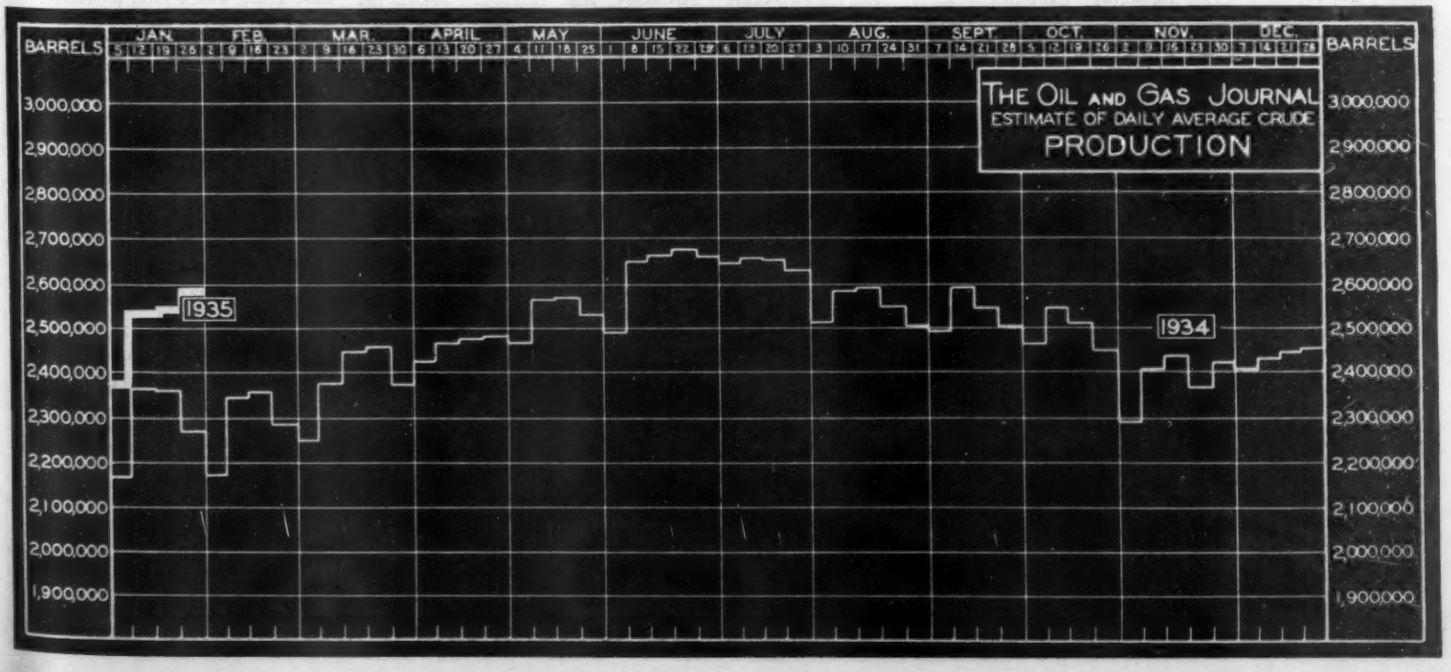
While there is considerable activity in different parts of Texas, results so far have not indicated any important discoveries. The Cleveland Field in Liberty County, on the Gulf Coast, seems to have been extended to the west by a well during the past week. Larger oil companies are buying acreage in Southern Oklahoma with the intention of drilling these holdings.

Crude Oil Production in the United States

Estimated daily average production for the week ending January 26, a comparison with previous week and the Federal allowables follow:

	Jan. 26	Federal allowable January	Jan. 19
Oklahoma—			
Oklahoma City	186,800	.....	166,120
Seminole-St. Louis	88,550	.....	95,250
Remainder of State	234,600	.....	236,925
Total Oklahoma	509,950	489,300	498,295
East Texas—			
Lathrop	166,990	.....	156,336
Kilgore	158,610	.....	148,518
Joiner	141,527	.....	135,453
Total East Texas	467,127	.....	440,307
West Texas	148,466	.....	149,247
North Central Texas	88,293	.....	88,494
Texas Panhandle	60,895	.....	60,957
East Central Texas	51,534	.....	51,660
Gulf Coast—Texas	175,654	.....	173,803
Southwest Texas	57,863	.....	57,272
Total State of Texas	1,049,832	1,006,800	1,021,740
Kansas	140,975	137,100	143,206
North Louisiana	23,185	.....	23,490
Gulf Coast-Louisiana	88,678	.....	86,703
Total Louisiana	111,863	99,700	110,193
Arkansas	31,385	31,000	31,930
Eastern Fields (except Michigan)	103,000	96,100	105,000
Michigan	34,636	30,000	31,089
Rocky Mountain area	96,490	98,300	97,230
California—			
Santa Fe Springs	37,200	.....	39,250
Long Beach	61,750	.....	64,500
Mountain View	22,250	.....	14,750
Elwood	7,900	.....	9,500
Kettleman Hills	74,500	.....	64,900
Remainder of State	305,500	.....	319,100
Total California	509,100	473,900	512,000
Total United States	2,587,231	2,462,200	2,550,677

Increase 36,554 Bbls. Daily.



Production in United States in 1934 Increased to 903,104,233 Barrels

By JAMES McINTYRE

The production of crude oil in the United States increased only a little over the crude output of 1933. The total last year was 903,104,233 bbls. a daily average of 2,474,258 bbls. while that of 1933 was 901,273,323 bbls. a daily average of 2,469,242 bbls.

Fifteen fields supplied more than half the oil produced in the United States last year. Fourteen of these fields were old—that is, they range in age from 4 to 60 years, the East Texas Field being the youngest and the Bradford Field in Pennsylvania, the oldest. The one relatively new field is Conroe, Texas, opened in 1932. Not a pool opened in the United States last year averaged 10,000 bbls. a day for the year, and only one of the 1933 crop, Greta, Texas, got into the group of pools that make up the major pools of the last 10 years listed on the opposite page. Conroe is the only 1932 discovery to find its way into this select list of producing fields. The list on Page 7 represents pools which in one or more years in the past decade have averaged 10,000 bbls. per day over a period of a year. Out of the 100 pools represented in the table, 52 have dropped out of the major class and are in the settled production class.

The First 15 Pools

The first 15 fields in the country, which represent a little more than half the production of last year are as follows in their order of productivity:

	Bbls.
East Texas, Texas	178,500,411
Oklahoma City	60,833,486
Seminole, Okla.	25,696,958
Long Beach, Calif.	23,067,025
Kettleman Hills, Calif.	21,393,882
Midway-Sunset, Calif.	19,712,566
Conroe, Texas	17,143,144
Yates, Texas	16,443,127
Huntington Beach, Calif.	15,106,258
Santa Fe Springs, Calif.	14,722,264
Van, Texas	14,633,277
Hobbs, N. M.	12,437,853
Pampa, Texas	12,333,756
Bradford, Pa.	11,866,717
McPherson, Kansas	9,896,841
Total 15 fields	453,787,565
All other fields	449,316,668
Total United States	903,104,233

The 15 fields above named produced 500,101,617 bbls. in 1933 showing a decline last year of 46,314,052 bbls. They produced a greater percentage of the total production in 1933 than in 1934 as out of a total of 901,273,323 bbls. the 15 leaders produced 500,101,617 bbls. and all other fields 401,171,706 bbls.

The multitude of pools outside the select 15 increased their production last year by 48,144,962 bbls. This increase came partly from the pools of recent years, which, while not large producers individually produced a total that commands attention. Deeper drilling and the discovery of sands of large production helped in increasing the output of the older fields.

Proration rules and voluntary curtailment in Kansas, Oklahoma, Texas and California kept a number of new fields from getting into the select class of large producing fields. Some of these will undoubtedly enter the list in 1935. The Haury-Burrton Pool in Reno County, Kansas; the Fitts Pool, in Pontotoc County and the South Burbank Pool in Osage County. The Lucien Pool in Noble County the Crescent Pool in Logan County all in Oklahoma potentially are in the select list now. In the Gulf Coast Field in Louisiana, the Bosco Pool gives promise of becoming a major pool.

Increases and Decreases

Increased production last year is noted in the following states:

	Bbls.
California	2,383,146
Oklahoma	295,563
Kansas	4,448,349
Wyoming	1,393,266
Louisiana	6,848,627
Illinois	220,000
Pennsylvania	1,895,000
Ohio	3,000
Kentucky	247,000
West Virginia	306,000
Montana	1,150,959
New York	661,000
Colorado	215,494
New Mexico	2,637,600
Indiana	84,000
Tennessee	4,000
Michigan	2,703,518
Total increase	25,496,522

The states showing a decline in production were:

Decline in Production

	Bbls.
Texas	23,575,435
Arkansas	90,177
Total decrease	23,665,612
Net increase in U. S.	1,830,910

Twenty Largest Producers

In the list of 20 largest producing fields from their beginning up to the close of 1934 the East Texas Field has risen to second place, just below Midway-Sunset, California. There appears to be no doubt that eventually East Texas will pass Midway-Sunset and become the largest of the country's producing fields as well as the largest in acreage. The 20 fields listed have piled up the enormous total of 6,546,908,881 bbls. and some of them are still very large producers. The list follows:

Twenty Largest Fields

	Bbls.
Midway-Sunset, Calif.	766,915,184
East Texas, Texas	611,071,184
Seminole Field, Okla.	554,004,822
Long Beach, Calif.	525,271,934
Santa Fe Springs	385,616,971
Smackover, Ark.	344,623,786
Coalinga, Calif.	332,343,438
Bradford, Penn.	331,086,818
Cushing-Shamrock, Okla.	319,800,831
Kern River, Calif.	296,705,945
Augusta-Eldorado, Kan.	264,166,477
Salt Creek, Wyo.	257,868,387
Oklahoma City, Okla.	249,461,391
Huntington Beach, Calif.	217,671,266
Glenn Pool, Okla.	198,363,132
Yates, Texas	195,383,327
Burbank, Okla.	190,684,414
Hendricks, Texas	177,984,872
Healdton, Okla.	177,298,695
Fullerton, Calif.	150,586,007

Texas Situation Improved

The big decrease in production in Texas last year was not caused by inability of the fields of that State to produce the oil. The tightening up of curtailment in the East Texas Field was responsible for the decline in crude oil output. "Hot" oil was produced and shipped out of the big field, but better control of the proration situation kept millions of barrels of oil in the ground which would have found its way to market at cut prices, but for the tightening of the law and official vigilance.

Growth of Old Fields

Overproduction in the Pennsylvania Grade fields brought two cuts in price, one of which was restored. It is quite remarkable to see New York State production increase from 809,000 bbls. in 1918 to 3,814,000 bbls. in 1934, with very little increase in productive acreage of the fields in the southwestern part of that State, and it is equally impressive to see Pennsylvania increasing its production from 7,408,000 bbls. in 1918 to 14,572,000 bbls. in 1934, from practically the same productive areas.

Modern producing methods, little practiced 16 years ago, caused the increase. The Bradford-Allegany district in northwestern Pennsylvania and southwestern New York increased their production from 5,812,625 bbls. in 1925 to 13,791,617 bbls. in 1934 without increasing the area of development work. The operation of the "flood" or water drive scientifically administered gave that district of 105,000 productive acres, a steady increase in output.

Hot Oil in East Texas

In the table of production by major fields on page 7, the East Texas Field is credited with a total of 611,071,184 bbls. from the fall of 1930 to the close of 1934. The field produced more than that quantity but how much more no one will ever be able to say with surety. The "hot" or illegally produced oil is variously estimated. The Oil and Gas Journal's correspondents covering the East Texas district have accounted for most of it in their production figures, but there are claims of more illegal production than are shown in our figures. One of the largest oil companies credits East Texas with a total production from the beginning up to the close of 1934 at 613,898,000 bbls., or over 2,800,000 bbls. more than The Oil and Gas Journal's total. This is a very small difference in figures covering so large a total.

Production in the United States, 1926 to 1934, Inclusive

	1926 (bbls.)	1927 (bbls.)	1928 (bbls.)	1929 (bbls.)	1930 (bbls.)	1931 (bbls.)	1932 (bbls.)	1933 (bbls.)	1934 (bbls.)	No. active wells Dec. 31, 1934	Dly. av. prod. per well (bbls.)
California	224,117,013	230,751,463	231,982,597	292,036,911	228,091,899	188,829,032	178,127,794	173,125,420	175,508,566	11,399	42.18
Oklahoma	177,651,198	276,022,024	247,500,851	252,229,474	216,114,591	175,703,848	149,487,234	178,356,449	178,652,012	57,667	8.49
Texas	172,545,278	220,030,512	255,354,357	298,713,694	292,392,102	328,608,575	314,378,759	401,808,452	378,233,017	53,513	19.36
Arkansas	58,729,606	40,411,375	32,137,934	25,443,570	20,114,782	15,626,407	12,529,870	11,449,635	11,359,458	2,803	11.10
Kansas	41,346,511	41,943,577	38,150,878	40,658,170	42,123,347	38,956,338	35,339,206	41,305,768	45,754,117	19,558	6.41
Wyoming	25,465,553	20,983,675	21,403,460	19,071,618	17,740,017	14,692,272	12,994,748	11,095,729	12,488,995	3,718	9.20
Louisiana	24,283,144	24,330,954	22,862,564	21,137,263	23,881,270	22,856,536	22,467,889	25,629,655	32,478,282	2,480	35.88
Illinois	7,770,500	6,873,000	6,475,000	6,356,500	5,651,000	4,717,000	4,801,000	4,252,000	4,472,000	14,520	.84
Pennsylvania	8,971,200	9,642,000	9,914,000	11,804,800	12,918,000	11,862,000	12,395,000	12,677,000	14,572,000	79,500	.50
Ohio	7,307,500	7,542,500	7,105,000	6,730,200	6,483,000	5,318,000	4,606,000	4,296,000	4,299,000	34,550	.34
Kentucky	6,297,200	6,590,000	7,350,000	7,821,400	7,462,000	6,490,000	6,322,000	4,621,000	4,868,000	14,300	.93
West Virginia	5,962,400	6,033,000	5,746,000	5,608,600	5,111,000	4,477,000	3,907,000	3,827,000	4,133,000	14,200	.80
Montana	7,744,605	5,171,883	3,998,549	3,827,067	3,203,808	2,847,201	2,320,155	2,358,056	3,509,015	1,512	6.35
New York	1,934,200	2,237,000	2,579,000	3,345,600	3,854,000	3,395,000	4,524,000	3,153,000	3,814,000	14,625	.71
Colorado	2,776,442	2,722,670	2,744,184	2,361,595	1,623,639	1,492,862	1,114,064	914,881	1,130,375	193	16.04
New Mexico	1,695,645	1,214,254	973,891	1,803,261	10,377,415	15,360,383	12,344,684	13,801,278	16,438,878	592	76.77
Indiana	785,200	852,500	1,054,000	905,800	990,000	831,000	806,000	732,000	816,000	1,450	1.54
Tennessee	44,200	62,200	50,000	20,000	20,000	7,000	5,000	7,000	11,000	.....	.....
Michigan	103,000	436,100	613,000	4,391,200	3,589,000	3,733,000	6,834,000	7,863,000	10,566,518	1,070	27.05
Miscellaneous	30,780	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	775,561,175	903,850,687	897,995,265	1,004,266,723	901,740,870	845,803,454	785,304,403	901,273,323	903,104,233	327,650	7.55

Variation in Annual Crude Oil Production of Major Fields in United States, 1925 to 1934, Both Inclusive

(In Barrels of 42 Gallons)

Pool—	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
Santa Fe Springs, California	18,969,528	17,446,709	15,153,578	16,093,931	76,477,464	44,251,396	24,272,660	22,538,036	18,268,904	14,722,264
Elwood-Goleta, California	.....	.....	86,840	895,152	9,435,819	14,606,307	10,470,059	5,441,626	4,918,488	4,113,644
Ventura Avenue, California	6,699,403	14,795,495	17,808,704	18,920,942	20,934,388	17,493,155	16,255,256	12,332,853	12,575,647	9,882,614
Seal Beach, California	.....	587,107	16,424,929	12,436,371	14,418,305	8,026,796	4,882,115	4,522,489	3,987,459	3,515,457
Kern River, California	5,901,855	4,358,396	6,098,582	5,071,284	6,089,344	5,349,915	3,857,474	3,387,262	3,208,773	3,704,447
Midway-Sunset, California	36,923,402	33,968,755	31,670,708	27,314,093	25,310,976	23,487,147	18,728,461	17,929,036	17,540,122	19,712,566
Elk Hills, California	11,971,149	12,292,754	10,073,073	8,107,198	6,353,035	6,572,379	4,925,636	4,537,461	4,488,688	3,345,772
Coalinga, California	7,751,107	7,295,807	7,154,599	4,655,284	3,558,843	3,373,078	2,978,392	3,649,578	4,424,043	6,594,950
Fullerton, California	4,481,443	6,987,489	7,008,934	5,743,044	4,813,942	4,423,266	3,626,008	3,018,125	2,964,654	3,744,538
Coyote, California	7,140,004	6,030,619	5,146,864	4,901,988	4,176,035	3,890,047	3,751,857	3,716,467	3,694,139	4,144,036
Montebello, California	6,843,194	6,515,493	5,498,252	4,369,638	3,657,922	2,712,725	2,446,052	2,162,530	1,932,596	1,980,942
Richfield, California	4,318,488	5,574,244	7,884,042	6,798,673	5,776,258	3,643,578	2,443,186	2,263,699	2,466,518	2,925,001
Huntington Beach, California	15,887,474	19,064,814	26,344,697	19,642,278	16,007,030	11,108,203	7,778,549	8,016,801	13,100,489	15,106,258
Long Beach, California	40,173,375	37,931,964	34,541,667	62,467,103	60,495,555	36,599,688	30,166,409	27,435,553	24,825,049	23,067,025
Torrance, California	13,242,817	10,354,905	8,338,938	6,454,067	5,000,218	4,116,846	2,191,781	2,281,274	2,381,875	2,525,990
Inglewood, California	18,348,396	17,390,131	12,571,556	10,762,797	8,768,101	6,429,205	5,289,125	4,869,335	4,059,972	3,376,586
Dominguez, California	13,328,817	7,801,586	5,887,645	4,267,009	3,606,850	3,694,075	4,183,052	6,823,579	6,626,615	6,655,465
Playa Del Rey, California	.....	.....	.....	.....	25,121	4,719,981	9,759,018	5,910,926	4,061,577	3,187,773
Kettleman Hills, California	.....	.....	.....	199,699	1,951,786	6,209,357	16,544,824	21,959,601	21,624,020	21,393,882
Mount Poso, California	.....	.....	40,277	53,977	1,826,056	3,883,924	3,009,374	2,907,839	3,050,826	3,486,217
Rosecrans, California	7,263,466	6,114,430	3,506,116	2,392,325	2,463,808	2,435,341	1,334,452	1,125,624	1,086,163	1,037,817
Joiner, Texas	.....	.....	.....	.....	.....	29,122	37,932,810	37,131,836	58,145,564	49,345,560
Kilgore, Texas	.....	.....	.....	.....	.....	.....	43,537,815	39,086,616	63,537,717	55,200,902
Longview, Texas	.....	.....	.....	.....	.....	.....	26,257,287	45,725,947	81,186,059	73,953,949
Conroe, Texas	.....	.....	.....	.....	.....	.....	.....	2,499,645	21,286,672	17,143,444
Pecos County, Texas	.....	.....	5,250,173	22,673,875	41,733,955	42,603,498	27,401,174	23,654,666	20,983,060	16,443,127
Salt Flat, Texas	.....	.....	.....	178,430	13,556,048	7,387,359	4,350,149	2,979,078	2,090,838	3,348,204
Pampa, Texas	.....	.....	3,966,412	7,795,865	18,406,284	21,782,549	14,861,340	11,244,964	10,386,789	12,333,756
Chalk-Settles, Texas	.....	100,915	1,127,269	4,692,236	14,826,190	11,188,886	9,762,304	6,668,057	5,782,469	6,238,916
Barbers Hill, Texas	38,338	192,971	307,160	306,177	4,523,350	7,865,597	8,085,278	7,383,572	8,127,939	6,866,933
Sugarland, Texas	.....	.....	.....	391,244	4,016,401	4,291,689	4,198,004	3,424,869	2,546,356	2,194,457
Wilbarger County, Texas	3,314,523	5,116,448	4,462,768	8,124,626	10,411,183	7,867,089	4,167,464	3,361,161	2,879,742	3,057,771
Humble, Texas	1,729,740	1,679,449	1,523,844	1,263,983	2,996,409	5,864,035	3,041,585	2,238,043	1,728,362	1,256,970
Pierce Junction, Texas	327,815	1,041,723	3,163,585	3,983,484	5,193,061	4,056,270	2,960,390	1,837,673	1,575,223	1,194,564
Mirando, Texas	1,069,980	4,227,957	4,540,520	3,098,196	4,165,620	4,097,075	5,063,071	6,340,301	7,400,444	8,914,703
Shackelford County, Texas	1,049,283	2,712,610	3,038,704	3,639,368	4,145,166	2,319,132	1,203,841	1,445,565	1,159,515	1,959,846
Burkburnett, Texas	5,158,665	4,330,121	4,592,203	4,031,011	3,597,936	3,104,834	2,460,663	2,005,286	2,136,229	1,034,839
Electra, Texas	6,294,646	6,127,336	5,099,618	4,627,192	4,601,996	3,995,470	2,941,619	2,988,143	2,773,284	2,673,291
Archer County, Texas	13,254,247	11,875,426	9,648,832	7,374,445	6,592,594	6,023,760	4,384,656	4,057,536	4,543,939	7,023,184
Hutchinson County, Texas	382,340	23,101,806	32,240,493	13,839,632	9,709,746	7,285,486	3,933,837	4,496,338	3,966,016	4,488,823
Brown County, Texas	1,349,932	3,596,033	7,519,647	4,257,149	3,147,236	2,291,227	1,204,495	963,828	869,383	837,812
Big Lake, Texas	8,759,457	10,978,135	8,668,381	7,039,043	6,425,664	7,016,204	9,501,820	9,068,844	6,851,980	4,627,049
Hendrick, Texas	.....	6,431	3,109,523	58,893,863	49,826,190	25,925,581	14,992,723	11,152,545	7,497,934	6,580,082
Luling, Texas	9,371,992	7,809,771	6,099,264	5,097,808	4,246,861	3,476,058	2,948,514	2,653,814	2,442,080	2,145,066
Hull, Texas	7,296,687	7,242,551	5,914,333	4,115,269	3,488,869	3,161,436	2,237,018	1,855,169	1,980,342	3,498,660
West Columbia, Texas	4,183,636	3,366,892	3,459,220	2,928,949	2,441,432	1,915,990	1,490,108	1,329,437	1,215,801	1,045,299
Wortham, Texas	16,024,035	2,834,207	1,137,396	664,582	430,552	276,468	148,646	49,787	45,814	39,121
South Liberty, Texas	4,674,003	2,089,391	1,102,830	1,404,499	2,207,257	1,550,477	694,626	389,575	267,520	189,498
Spindletop, Texas	420,893	14,838,218	21,264,935	14,332,357	10,183,684	5,997,913	3,209,994	1,442,560	1,168,432	1,152,010
Powell, Texas	17,218,874	10,379,485	6,249,034	4,059,389	2,884,177	2,077,524	1,362,278	956,071	990,257	897,667
Young County, Texas	.....	2,900,081	3,473,329	2,987,054	2,481,445	5,229,401	4,231,600	3,391,514	3,048,014	3,632,974
Van, Texas	.....	.....	.....	.....	122,139	7,530,222	15,542,023	17,361,174	17,271,227	14,633,277
Refugio, Texas	.....	.....	.....	25,312	2,063,475	11,698,202	9,291,937	3,521,832	2,148,847	1,475,353
Darst Creek, Texas	.....	.....	.....	.....	228,876	11,343,682	7,963,694	6,080,127	4,413,259	3,348,204
Thompson, Texas	.....	.....	.....	.....	.....	.....	731,624	4,223,213	4,938,511	4,215,513
Upton-Crane, Texas	.....	2,218,242	29,583,131	25,261,260	17,195,992	14,152,389	7,102,015	7,375,773	6,155,487	6,214,891
Greta, Texas	.....	.....	.....	.....	.....	.....	.....	.....	1,161,074	3,961,176
Mexia, Texas	6,730,323	4,826,454	4,127,388	2,552,468	1,939,317	1,510,993	1,186,770	967,165	872,788	795,994
St. Louis-Pearson, Maud, Oklahoma	10,400	10,677	1,406,020	21,878,954	30,718,245	13,194,525	8,056,449	7,368,077	8,466,897	8,526,557
Oklahoma City, Oklahoma	.....	.....	.....	110,496	8,709,727	34,603,067	44,822,508	33,397,537	66,984,570	60,833,486
Little River, Oklahoma	.....	.....	5,144,014	24,447,158	28,909,393	17,348,145	9,444,872	6,391,202	6,310,665	5,370,669
Marshall-Lovell-Crescent, Oklahoma	.....	.....	436,213	2,692,520	5,759,444	2,196,202	1,256,441	926,897	731,016	1,662,466
Allen, Oklahoma	93,124	174,049	593,420	6,958,689	8,971,530	6,579,898	3,839,577	3,255,495	3,342,983	3,065,168
Carr City, Oklahoma	.....	.....	.....	.....	3,309,094	3,280,091	4,262,219	4,251,966	2,748,695	2,039,160
Seminole City, Oklahoma	.....	10,838,823	47,039,644	18,237,004	11,291,330	6,562,504	4,370,314	3,959,604	3,932,217	3,779,065
Earlsboro, Oklahoma	.....	388,460	36,885,196	33,321,824	25,602,005	23,398,033	12,699,233	10,689,164	10,915,763	7,679,214
Bowlegs, Oklahoma	.....	.....	36,649,733	23,800,896	12,122,250	6,509,450	4,391,549	4,200,043	3,917,746	3,760,842
Searight, Oklahoma	.....	.....	10,232,511	5,218,241	3,867,349	3,107,065	1,501,928	1,238,664	1,012,542	921,683
Sholem-Alechem-Tatums, Oklahoma	634,331	2,011,408	5,255,516	5,328,386	4,829,057	4,852,825	4,579,669	4,330,587	4,348,050	3,993,398
Burbank, Oklahoma	19,954,667	16,352,805	15,266,099	13,060,449	7,435,589	5,717,088	4,566,290	3,974,096	3,516,190	3,406,107
Tonkawa, Oklahoma	22,721,580	13,867,121	7,747,121	4,878,203	3,518,176	2,432,084	1,991,634	1,836,751	1,675,161	1,386,929
Bristow, Oklahoma	9,547,666	9,080,207	7,585,670	5,624,001	5,295,920	4,678,137	3,661,296	3,095,326	3,190,604	3,000,168
Cushing-Shamrock, Oklahoma	8,024,551	7,621,495	6,942,017	6,521,413	5,988,122	4,980,031	4,656,393	4,349,054	4,367,112	5,044,132
Cromwell, Oklahoma	11,673,369	6,193,396	4,521,063	3,386,553	2,867,933	2,604,682	1,897,207	1,827,744	1,806,735	1,690,302
Healdton, Oklahoma	5,575,981	5,501,310	5,447,776	5,068,978	4,599,309	4,208,631	4,025,058	3,880,981	3,638,589	3,386,150
Konawa, Oklahoma	.....	.....	.....	.....	.....	5,099,516	3,118,045	1,713,652	1,100,579	810,760
Garber, Oklahoma	7,484,428	11,207,851	5,292,726	2,943,248	1,973,902	1,639,045	1,293,054	1,066,194	1,005,710	898,110
Wewoka, Oklahoma	4,483,843	9,573,687	5,899,957	2,415,180	2,409,118	1,428,714	2,844,277	1,977,067	1,647,181	1,629,124
Davenport, Oklahoma	3,131,158	4,309,769	1,224,921	764,121	628,859	443,493	333,112	298,112	272,400	273,397
Hewitt, Oklahoma	5,324,672	4,200,975	3,539,005	3,338,421	2,952,560	2,501,412	2,145,897	2,045,081	1,908,514	1,817,404
Graham-Fox, Oklahoma	4,442,526	4,114,264	3,307,351	2,563,882	1,991,753	1,625,203	1,464,595	1,328,227	1,563,404	1,323,920
Papoose, Oklahoma	7,802,531	3,632,801	2,467,950	1,546,151	1,204,529	982,387	714,683	642,095	538,591	488,068
Sedgwick County, Kansas	.....	.....	.....	378,851	8,899,688	7,719,802	5,840,234	4,538,283	3,543,473	2,664,499
Eldorado-Augusta, Kansas	8,867,807	9,634,084	10,517,922	9,690,889	9,272,141	9,099,075	7,769,394	6,684,285	5,947,371	7,196,558
Greenwood County, Kansas	13,464,805	17,074,977	12,664,125	9,872,560	7,920,990	7,265,892	5,564,320	4,863,996	4,312,644	4,547,129
Rice County, Kansas	25,690	237,860	624,264	446,186	290,863	267,894	450,562	858,105	1,935,996	3,905,132
Sumner County, Kansas	3,436	1,248,088	6,708,275	7,787,738	4,566,556	3,224,852	2,348,371	1,622,813	1,319,952	5,311,703
McPherson County, Kansas	.....	.....	.....	.....	.....	5,604,670	9,184,393	7,748,212	11,763,473	9,896,841
Homer, Louisiana	4,815,883	2,071,498	1,813,900	1,576,940	1,418,424	1,268,578	1,110,815	1,047,672	979,937	975,842
Caddo, Louisiana	4,178,839	4,620,130	6,047,857	4,888,365	4,652,047	4,379,614	3,345,157	2,617,094	2,282,948	2,243,704
Haynesville, Louisiana	4,815,883	3,579,359	2,754,300	2,222,804	1,802,721	1,746,089	1,908,244	1,579,798	1,412,719	1,372,255
Leesville, Louisiana	.....	.....	.....	.....	.....	.....	153,134	276,009	370,377	4,230,753
Iowa, Louisiana	.....	.....	.....	.....	.....	.....	17,312	466,164	3,370,962	5,311,703
Urania, Louisiana	9,610	4,130,917	3,621,650	2,656,050	2,120,465	1,905,492	1,478,549	1,267,008	914,664	1,116,093
Smackover, Arkansas	74,075,613	52,155,308	35,507,476	24,775,769	19,666,126	18,755,335	12,044,935	9,716,628	8,897,531	8,019,709
El Dorado-Champagnolle, Arkansas	3,220,435	2,712,610	2,188,033	5,617,219	4,485,371	2,986,026	2,276,413	1,765,143	1,451,817	1,407,664
Salt Creek, Wyoming	21,680,070	18,016,104	14,397,590	14,066,816	11,365,322	10,517,980	8,846,658	7,918,390	7,026,294	6,597,796
Hobbs, New Mexico	.....	.....	.....	34,934	740,165	9,459,319	14,596,714	11,768,252	11,210,908	12,437,853
Sunburst, Montana	2,895,910	6,656,280	4,313,388	3,209,574	2,323,406	1,940,515	1,519,935	1,194,786	1,187,778	1,639,998
Bradford-Allegany, Pa.-N. Y.	5,812,625	6,206,000	7,314,500	8,418,000	11,274,000	12,249,065	11,419,000	12,682,124	12,500,513	13,791,617

Cole Committee Split on Connally-Gore Bill Is Washington Report

By HUGH D. MALLON
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Jan. 29.—The Cole committee today conferred with Senator Connally on the Connally bill. No details of the conference have been divulged by the committee, which is scheduled to meet again in a day or two to resume discussions of the bill.

Attempts by members of the committee to have the administration of the bill removed from the Petroleum Administrative Board are reported to be causing delay in the approval of this measure.

It is not believed the administration will be changed at this time, however, because such a proposal is expected to be too controversial a subject which might defeat the passage of the bill.

To meet objections raised by members of the committee to some of the provisions numerous amendments to the Connally bill have been suggested, one of which would provide for the suspension of the provisions of the bill if the country was faced with a shortage of oil. This amendment has been suggested to meet the opposition raised by Representative Pettengill. Mr. Pettengill has signified his intention of favoring the bill if such an amendment is inserted.

Representative Mapes is understood to be opposed to legislation similar to the Connally bill on the argument that it will prejudice passage of a comprehensive measure for oil control. The law, if enacted, will probably be only for the duration of the petroleum code, after which it will lapse. If passed, it will become effective on approval by the President.

Rumor has it that Representative Cole, chairman of the subcommittee, and Representative Kelly are of the same opinion as Mr. Pettengill. It has been understood that Representatives Mapes and Wolverton are in favor of strict federal control, regardless of the constitutional complications which may result from the enactment of such a law, and Wolverton may present a minority report.

Elk Hills Decision

A decision by the Secretary of the Interior that Section 36, in the Elk Hills, Naval Petroleum Reserve No. 1, California, is the property of the United States has been handed down. This action opens the way to the courts for the various oil companies and individuals involved in the controversy.

Mr. Ickes' decision holds that there was on January 26, 1903, a general knowledge that the land was mineral in character, which precluded granting of title to the State of California under the terms of the act of March 3, 1853. This is contrary to the contention of the claimants. The act held that Sections 16 and 36 in each township in the State should be granted to the State by the United States for the aid of public schools, but excepted mineral lands from such grants.

The Supreme Court had sustained the power of the Secretary of the Interior to make the decision, but holders of the property may carry the case into the courts again, Mr. Ickes said.

Mr. Ickes reversed a decision made on February 23, 1933, by C. C. Moore, then land office commissioner, who upheld California's right to hold title under a school land grant. Under the new ruling, the claimants to the land must reimburse the Government for oil and gas sold from the leased area.

Mr. Ickes' decision held, first, that the land was known to be valuable for oil and gas before January 26, 1903; second, the observable conditions before January 26, 1903, were such as reasonably to engender, in a competent geologist, the belief that the land contained oil and gas of such quality and quantity as to render its extraction profitable; third, an ordinarily prudent man desiring to engage in the production of oil for profit would have been justified in acquiring the property for such use; fourth, a competent geologist would have had ample warrant for advising such acquisition and expenditure; fifth, it was known prior to January 26, 1903, that the diatomaceous Monterey shales were a source of oil, that sands and conglomerates constitute a suitable reservoir stratum, that the Tulare formation was relatively impermeable and would serve as a cap-rock series; sixth, all of the conditions on the basis of which a geologist could have reached such a conclusion that this section was valuable oil land were not only observable on January 26, 1903, but had actually been observed before that date; seventh, geological theory and practice had reached a stage of development which rendered it reasonable for one not himself a competent expert to employ a competent geologist to advise in the matter of prospecting for oil lands.

Resort to Courts

The foregoing conclusions, says Mr. Ickes, are more than sufficient to dispose of the present case, but, "should it become necessary to resort to the courts in order to call the claimants to account for the oil already extracted from Section 36, the following findings as to actual belief in the oil value of that land, justified by the evidence, may prove helpful":

(a) While all the conditions reasonably justifying a conclusion that Section 36 was valuable for oil were observed as well as observable prior to January 26, 1903, there is no evidence to show that all of them had been observed by any one person.

(b) A few persons then actually believed the Elk Hills to be worthy of acquisition and development as oil land.

(c) Many oil men active in western Kern County either did not believe the Elk Hills to be oil lands or had no opinion on the question.

"Before concluding," the secretary stated, "I wish to advert again to the possible significance of the original mineral withdrawal of Section 36 and of the return of that section as mineral in the Dewey Survey. I have attached no weight at all to the latter so far as it bears on the question of the mineral character of the land. But if it were necessary to go beyond the observable condition test, I am of the opinion that it would be enough if, in addition to the existence of the requisite observable conditions, there was some fact or facts, which, from the very moment that the state could have claimed title served as a caveat that title may have passed. Such a caveat would put those desirous of acquiring title from the state upon notice of the possible mineral character of the land and point significantly to the advisability of consulting an expert before relying upon the title of the State."

"The original mineral withdrawal might have been sufficient alone to supply such a caveat," the secretary continued, "clearly the mineral return in the Dewey Survey was sufficient for it is part of the very document which must be relied on to identify Section 36 and from which must be traced such title as the state could have acquired. The significance of the original mineral withdrawal and of the Dewey Survey is mitigated to the considerable extent by the revocation of the withdrawal in 1904 and by the Ryan report. I believe, however, that these were not sufficient so far as to allay doubts concerning the State's title as to dispense with an effort to investigate the possible existence and significance of observable conditions affecting the character of the land."

In conclusion the secretary states "it follows from the conclusions of fact and of law herein set forth that Section 36, T.30 S., R. 23 E., M.D.B. and M., was known to be mineral in character at the time of its formal identification by approval of the survey, and that title to this section has never vested in the State of California or its transferees, but remains in the United States."

This decision was reached in response to Public Resolution No. 6, of the Sixty-eighth Congress, which was introduced by the late Senator Tom Walsh of Montana. This resolution directed the Secretary of the Interior to institute proceedings necessary to assert and establish title in the United States to the land in question.

May Appeal to Court

The decision, if acceped by the state and by the transferees of the state, will return to the Federal Government lands worth approximately $25,000,000. This represents an estimated amount of recoverable oil of approximately 22,000,000 bbls., according to estimates of the Secretary of the Interior.

Besides this, the secretary stated that the various claimants to the land would be liable for an accounting for the 5,500,000 bbls. of oil which have been extracted at an average price of 75 cents per bbl., and for 57,000,000,000 feet of gas which has been extracted and used. The natural gas has been sold at an average price of 3 cents per 1,000 feet, it has been estimated.

The Secretary of the Interior stated that this decision marks the end of one of the most complex cases ever brought before the Interior Department, but it does not close the case as far as the various parties involved are concerned as they may now bring action in the appropriate Federal court to restrain the department from enforcing its decision.

Nathan Margold, solicitor of the Department of the Interior, has stated that he will take no action at the present time to enforce the decision of the secretary.

Future of NRA

Discussions are now going on with representatives of the National Recovery Administration, the Petroleum Administrative Board, the Federal Trade Commission, the Securities and Exchange Commission and the President to determine the future course of the National Industrial Recovery Act. Prospects are, at present, that the recommendation will be made to continue the act in force for at least another year, and perhaps two years.

Nothing specific has as yet been determined upon by the authorities who, it is believed, are awaiting the decision of the United States Supreme Court in a case now before that tribunal which affects the very root of the Recovery Act, the Code making authority which was delegated to the President and which he delegated to the National Recovery Administration. It is expected this decision will be forthcoming from the court shortly after it hears the argument in the case, which will probably be heard by the middle of February. In the meantime, a provision of the huge public works bill, passed by the House and now before the Senate gives authority to the President to continue for any period he desires the emergency agencies, commissions and boards which have been set up under the legislation of previous sessions of Congress. This provision, it was stated on the floor of the House, gives the President authority, without any more legislation whatsoever, to extend the life of the NRA, AAA, RFC, etc.

An attack on this section of the bill was made by various members of Congress as being an unauthorized delegation of authority to the President, but the final vote on the subject showed a majority of the House of Representatives in favor of such a provision. Action by the Senate is expected to be more analytic, however, and the bill, when it comes out of that body is expected to be without such a provision, it being the opinion of numeorus attorneys that this section of the bill is unconstitutional.

NEW EAST TEXAS LINE

FORT WORTH, Tex., Jan. 28.—A survey has been made for an 8-inch line from Rusk station, where the Liberty Pipe Line Co.'s East Texas line ties into the Pure-Van Pipe Line Co.'s main line from the Van Field, Van Zandt County, to Smiths Bluff, to the Conroe Field, where another line leads to a terminal on the Gulf Coast. Such a line, if constructed, would give another direct outlet to the East Texas Field, via Conroe Field to the Gulf. One independent company owning a large number of leases in the field is said to be interested.

Small Returns

—Drawn exclusively for The Oil and Gas Journal

Unique Problems Galore Encountered in Laying Pipe Line Through Sand

The approach to one railroad crossing

By ANDREW M. ROWLEY

Almost every type of pipe line construction problem was encountered and solved in the laying of the line of the Stanolind Pipe Line Co. through the city of Hammond, Ind., from the Little Calumet River north to the refinery of the Standard Oil Co. (Indiana) at Whiting. Incidentally, this stretch of line, recently completed, while a little less than 7 miles long, is said to be the largest diameter oil discharge pipe line, it being 14 inches in diameter. It forms the north end of the Stanolind's system which extends to the Gulf Coast.

In traversing the industrial city of Hammond, the pipe line had to be constructed under 17 railroad crossings and 14 public highways and across two rivers. In addition there are a number of square turns where the line turns from one street into another.

Throughout the distance of 35,000 feet, the pipe line was laid in a terrain which is veritable quicksand. Constructing a pipe line through quicksand involves problems all its own, especially when it is located in a city with paving, sewers, water lines, gas lines and other underground obstructions involved in addition to the numerous street and railroad crossings.

The 7 mile stretch of line was laid to insure continuous operation of the system which supplies the Standard of Indiana's big refinery at Whiting with crude oil. The Stanolind Pipe Line Co. already had two 8-inch and one 12-inch lines to the refinery but, owing to the extremely corrosive nature of the soil, trouble was being experienced frequently with corroded pipe and much repair work which was necessary to keep the lines in good shape and prevent breaks and leaks involving difficulties in the city limits and threatening continuouse service to the refinery.

It was decited one 14-inch line would give the necessary capacity even were all three old lines to go out of commission simultaneously. The pipe line company had all data on the corrosive nature of the soil to be traversed, this corrosion resulting from factors involved in the industrial nature of the section. Electrolysis played a most important part in all considerations involving corrosion.

Construction of the new stretch of

18-Inch casing around 14-inch pipe under a crossing

line was started early in the fall when the weather still was quite warm. Realising a portion of the line might possibly be laid in rather warm weather and that with the connecting of the pipe in place, the usual methods of obtaining "slack" could not be applied, the problem of expansion and contraction had to be given special consideration.

The first big problem in construction, however, related to the water in the sand along the course of the line. This water, in many instances, practically saturated the sand from within 18 inches of the surface in some places, down to 20 feet below the surface. As frequently the pipe line ditch had to be dug far below the surface because of the numerous railroads and highways, the matter of ditching through quicksand at the depth necessary, brought a new angle into the picture for oil pipe line construction.

If an attempt were made to dig the ditch through the water filled sand, caving would be the inevitable result and all caving had to be avoided because of the danger of damaging pavement, both in the streets and at sidewalks. It was not practical to case off the ditch as it was dug because the big trouble was water and water would seep in and fill the ditch. Consequently, it was decided to use sand points in taking the water out of the sand in the section to be ditched.

The sand points are pieces of iron pipe closed and pointed at the bottom and perforated to permit entrance of water. A sand point was inserted in the sand to the required depth at intervals of every foot along the route of the ditch and on both sides of the ditch right of way. The points were located a few feet to each side of the outer side of the line of the ditch. A flexible hose was attached to the top of each sand point and these lines of hose connected to a suction pump which operated 24 hours a day, pulling the water out of the sand in the ditch right of way.

When all the water was taken out of the sand in the right of way and a little distance to each side of the right of way, ditching could progress with caving reduced to a minimum. Even the wind affected operations. When the wind blew from the lake, the water level in the sand rose appreciably and when the wind was from the south and towards the lake, the water level in the sand receded or dropped.

Part of the ditch had to be cut with a blow torch. Much of the section apparently was filled-in ground and fre-

Approach to a highway crossing

quently large sections of old iron and steel and other debris had to be cut through.

Pipe could not be strung along the

Part of pipe line right-of-way showing row of sand points to right of ditch

Pipe yard in Hammond where pipe was cleaned

right of way as is usually the custom, because of congested traffic and housing conditions over much of the route. Pipe yards had to be located at convenient intervals along the route and the pipe was stored and prepared for use in these yards.

First the new pipe was cleaned with field cleaning machines to remove mill scale. The pipe was then electrically welded into the line. It then was given a priming coat and then covered with two coats of asphalt and then it was spiral wrapped with asbestos felt, with wrapping machines, and a third or flood coat of asphalt, followed with a coating of concrete.

Metal forms had been prepared for use in putting on the concrete coating. First concrete blocks were placed at regular intervals in the ditch and the pipe,

Line covered with concrete in forms

covered as described above, was placed on these concrete blocks. When the metal forms for the concrete were in place, the concrete was poured to give a coating about 2 inches thick except on the two sides where the thickness was 1⅝ inches.

Contact points, consisting of brass rods, were welded to the pipe at designated points, to which electrical meters can be connected to measure the electric current along the line.

In order to take care of contraction and expansion 10 openings were left in the 35,000 feet of line. At each opening, concrete was left off 10 feet of line and 8 feet of this 10 feet of pipe was left exposed with the pipe separated or cut. When the weather became cold and it was decided the line had contracted as

Some of the conditions encountered in laying the line

much as it would, new pieces of pipe were welded into the line at each contraction opening and the pipe coated and covered as was the remainder of the line.

With the line buried at a greater than ordinary depth beneath the surface and crude oil in the summer tending to keep the temperature of the pipe down to 70 degrees Fahrenheit, it is felt there is no danger of any further contraction or expansion causing a break in the new line.

The new stretch of line from the Little Calumet River to the refinery at Whiting extends over a slightly different route than the existing old lines. No unusual trouble with water soaked sand had been experienced in laying the old lines and an investigation was made to determine the reason for this. It was found the old lines had been laid near a large sewer pipe and that the trench acted like a drainage ditch and water from sand around it seeped into the trench under the sewer pipe and was carried off by gravity.

The Stanolind Pipe Line Co. is still using the three old lines which formerly

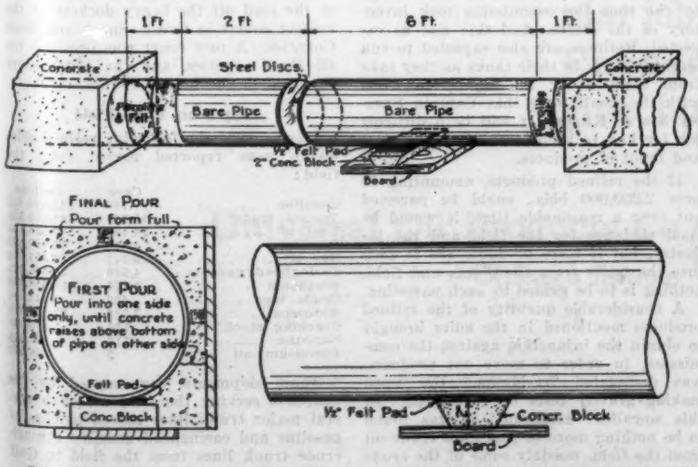
Tunnel for pipe through railroad right-of-way

were its only means of serving the Whiting refinery. These lines will continue to be used but there is no further danger of service to the refinery being interrupted through breaks in the old lines or a shut down of any or all of the old lines through necessity to make repairs or stop leaks due to corrosion.

Smith Brothers Construction Corp. of Kansas City, Mo., of which C. S. Foreman is president, had the contract for construction of the 7-mile stretch of line.

Wrapping machine putting asbestos felt on the line

Ready to remove concrete forms



Plan for covering line with concrete and for allowing for contraction

Concrete-covered line making turn and going under highway

Civil Court of Appeals Halts Shipments Being Made Under Injunctions

By L. E. BREDBERG

KILGORE, Tex., Jan. 29.—The Third Court of Civil Appeals at Austin yesterday granted a stay order holding in abeyance execution of injunctions granted by district courts permitting movement of approximately 1,500,000 bbls. of refined products from the East Texas Field, manufactured prior to December 10. The order prevents the movement of the products until a decision is made by the appeals court which will hear an appeal brought by the attorney general's department. Hearings before two federal courts for injunctions restraining the commission from interfering with the movement of oils at different places in the field have been held up by both courts, one at Tyler and the other at San Antonio until later in the week, although the Ninety-eighth District Court at Austin granted one brokerage company permission to move 80,000 bbls. of oil in another suit. Perjury cases may be brought against certain parties for making false statements to obtain permission to move products not in storage where claimed.

Two-Judge Decision Appealed

The action by the Court of Civil Appeals was on the appeal of the commission from a recent decision of a two-judge Travis County District Court holding tenders showing source of the oil need not be required on products in storage on December 10.

In the meantime the railroads serving the East Texas Field are seeking to vacate an injunction granted soon after Section 9(c) was invalidated by the U. S. Supreme Court.

Immediately after the Supreme Court decision Attorney General McCraw obtained an injunction from an Austin court preventing the railroads from handling any shipment where a "tender" had not been submitted to the Railroad Commission and approved after the legality of the oil was determined. At the instance of the railroads this injunction was transferred to Federal Court and has been set for hearing at Austin next Saturday, the same day set by the appeals court for hearing on the state injunction.

A glance at refined oil shipment reports from the East Texas Field gives a clear insight into the situation. Such shipments are gaining gradually, more refineries are starting operations, and the "hot oil artists" seem to be regaining their old-time nerve and fervor.

On January 24 there were 554 cars of refined products shipped from the field, 295 of which were untendered; 63 interstate, 111 intrastate and 380 coastwise. The next day shipments had fallen off to 337 cars, of which 189 were untendered. Shipments for January 24 were as follows:

	Cars	Gallons
Gasoline	391	2,164,282
Fuel oil	57	544,389
Residuum	0	0
Kerosene	32	259,643
Distillate	12	99,230
Topped crude	37	316,212
Casinghead gasoline	32	198,876
Gas oil	1	8,055
Crude oil	2	16,159
No crude tops or naphtha.		
Total	554	

For the week ending January 20, the following shipments were recorded:

	Cars	Gallons
Gasoline	549	4,441,237
Fuel oil	400	3,856,262
Casinghead gasoline	134	1,171,515
Kerosene	75	605,040
Crude oil	75	663,180
Gas oil	58	482,135
Residuum	36	312,300
Distillate	52	425,740
Topped crude	10	94,710
Total	1,389	

This is an increase of 362 cars over the previous week, and shipments are gaining each day.

On January 25, 250 cars of gasoline were shipped out by the Tyler (Tex.) Oil & Refining Co. as a result of the injunction granted several refineries in the disrict court at Austin last week. The State has filed for an appeal in the Third Court of Civil Appeals at Austin, and many are of the opinion that this court will uphold the commission in its refusal to permit removal of products refined from hot oil. Eighty-three cars were shipped out of Gladewater on January 24 by several refiners and operators. Eighty-two of these cars contained topped crude, fuel oil, distillate and kerosene, and but one car contained gasoline.

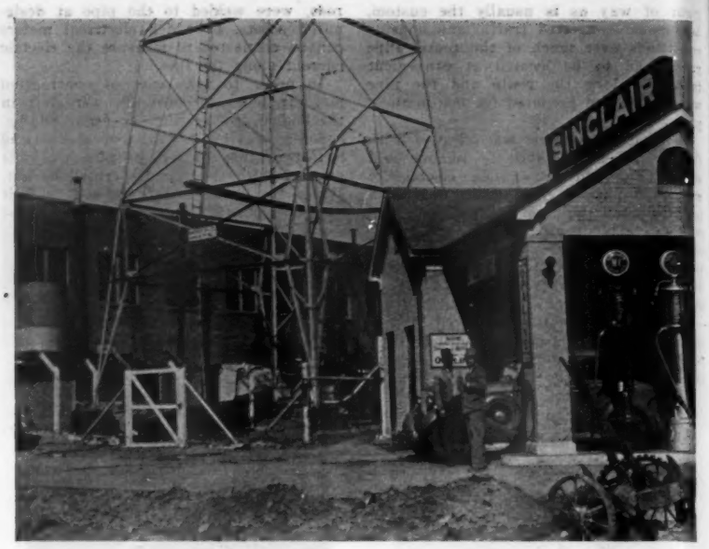
There are 28 refineries in operation in the field now, eight starting up since Section 9 (c) was invalidated, and four starting up this week, none of which has connected to any additional oil, which would necessarily force most of them to operate on hot crude if they are to maintain operations. Eleven of the plants are operating on untendered oil, which gives a clear and concise story in itself. Plants in Gladewater, an area in which heavy withdrawals have always taken place, and where the "hot oil racket" is the greatest in the field, have steamed up again, most of them having been shut down after October 25 and until Section 9 (c) was knocked out.

The following is a list of products in storage in the East Texas Field as of December 10, and according to sworn inventories given the Railroad Commission:

	Legal	Illegal	Question-able	Total
Crude oil	79,226	109,002	99,830	288,058
Gasoline	56,889	162,330	93,681	312,900
Kerosene	7,753	5,226	33,908	46,887
Distillate	1,115	3,153	5,246	9,514
Fuel oil:				
Storage	12,922	229,308	18,540	260,770
Earthen pits	336,153	800,730	379,500	1,568,448
Gas oil	4,907	18,726	9,726	33,359
Residuum	.....	620,992	.....	620,992
Naphtha	1,070	3,074	164	4,308
Residue and slop	6,420	738	512	7,670
Topped crude	2,231	340,351	5,498	348,080
Casinghead gasoline	1,361	.....	.....	1,361
Butane	703	.....	.....	703
Mineral seal	8	.....	.....	8
Total	562,673	2,294,630	646,605	3,503,958

This report shows that by far the greater portion of stocks in the field is of a "high temperature" if not "hot."

R. J. McMurrey, owner of the McMurrey Refining Co. and Tyler Texas Refining Co., said he would not dump his gasoline on the market, but would hold it and sell in an orderly manner in order to prevent the price from sinking to low levels. The prices in the field on Friday was holding at 3⅛ cents, which can be considered good under the present questionable situation, when no one knows what is going to happen.



Well sandwiched in between a Kilgore hotel and filling station. Another well is to be drilled about 25 feet from this one

But the question is, are the plants now operating, especially those operating on untendered oil, making more products to ship out under the present situation, first moving the products to storage and naming it as having been in storage prior to December 10 when the commission tender order went into effect? Several refiners who joined in the suit against the commission went into court, apparently with figures of products which the field men call "surface oil," that is oil which the scouts jokingly refer to as "surface oil," but down 3,600 feet under the surface, but which for legal purposes was supposed to be in tanks on the surface.

Could Not Find Oil

Some of the refiners apparently do not have the products in tanks, nor do they have the tanks as set out in their suits for injunctions against the commission. Commission men have been trying all week to locate some of these tanks and the stored products, and one fellow said "he gave up, that he just couldn't find 241,000 bbls. of fuel oil" that was named in the petitions which helped to gain the injunctions against the commission. He said that he couldn't even locate the tank farm or tanks it was supposed to be in. There was either a slip up by some of the refiners seeking the injunctions, or they figured they could soon slip back to their plants, run some oil through them and have the products in the storage by the time the commission took inventory of the stocks. And this was as expected. Refiners are also expected to run more products to their tanks as they take from them under the injunctions, and with the small force that Captain Stanley has at Kilgore, it will be a difficult job for him to keep tract of the removal and input of products.

If the refined products, amounting to over 2,200,000 bbls., could be parceled out over a reasonable time, it would be good riddance for the field and the industry, but if more products are to seep into the tanks from the plants and field, nothing is to be gained by such parceling.

A considerable quantity of the refined products mentioned in the suits brought to obtain the injunction against the commission, in order to move out products, was designated "residuum." But upon making gravity tests of a good part of this so-called "residuum" it was found to be nothing more or less than crude oil from the field, possibly some of the crude having fuel oil or other by-products dumped into it to make it "residuum." Commission officials have questioned the ownership of some of the refined products released under the injunctions, claiming that identical oil was being claimed by more than one company. On checking up on one lot of residuum specified in the suit for an injunction against the commission, commission men could not locate the farm on which it was said to be located, and no one could be located in the area, who ever heard of the farm on which the product was supposed to be located.

When these facts are brought up by the commission before the Court of Appeals, they may have more than anything else to do with the gaining of a reversal of last week's decision against the commission, the decision which granted the refiner permission to move all products they held in storage prior to December 10 when the commission's tender order went into effect. Some refiners might also be faced with perjury suits if the commission carries the fight that far.

Ten refineries in the field have been alleged as having failed to pay taxes on 3,386,075 gallons of gasoline sold prior to the time the Federal Tender Board started operation in the field. Men of the Department of Internal Revenue have checked the outputs of these plants and have filed tax liens against them. The evaders of the federal 1-cent per gallon tax are subject to heavy fines and jail sentences upon conviction.

The creation of three additional courts and the extension of the term on a fourth was advocated by Gov. James V. Allred to the State Legislature, which moved immediately to follow out his instructions in order to help carry out the conservation laws of the State by taking much of the load off the heavy dockets of the present courts in Gregg, Smith and Rusk Counties. A new court was provided for all three counties, and the 124th court extended in the former county.

Shipments From Field

During 1934 the following refined shipments were reported moved from the field:

	Cars	Gallons
Gasoline	37,785	311,496,035
Topped crude	15,340	140,109,525
Fuel oil	28,480	263,883,130
Distillate	6,400	52,457,225
Gas oil	5,347	44,811,535
Casinghead gasoline	4,580	39,595,915
Residuum	4,170	36,526,490
Crude tops	400	3,446,495
Kerosene	3,232	27,120,950
Cracking stock	120	1,165,840
Naphtha	112	623,225
Petroleum oil	2	16,130

These shipments were moved by the railroads serving the field although several major trunk lines moved batches of gasoline and casinghead gasoline through crude trunk lines from the field to Gulf

(Continued on Page 32)

A 5-month plan

In five months—peak gasoline consumption

What part of that gallonage will be yours—and at what price?

In five months—you can build a Dubbscracking unit and be ready —if you start now

With Dubbscracked gasoline you can get your full share of the gasoline business—and get the price for it

There never has been enough Dubbscracked gasoline to go round and there won't be enough next summer

The chemical cop gets a week off from this page But not from his regular job of birth-controlling gumbugs Refiners who employ him won't give him a vacation—too valuable

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor

Big Drilling Programs Forced on Companies by East Texas Methods

By L. E. BREDBERG

Oil companies operating in the East Texas Field are being forced to spend millions of dollars for equipment and the drilling of unnecessary wells—unnecessary in the sense that the wells already owned and being produced by these companies are fully capable of producing a sufficient quantity of crude oil to satisfy the companies' requirements from this field. But the additional wells must be drilled in order that each company may keep its allowable production at something like a steady level.

Under the proration system in effect in East Texas a premium really is paid for the drilling of more wells or a penalty assessed for not drilling. The quantity of production to be allowed from the field as a whole is calculated and, with this figure as a basis, the per well allowable is figured, taking into account marginal wells which are permitted a certain definite production and the potential of the other wells in the field. Naturally, as more wells are completed in the field, with a total production allowable more or less constant or which does not increase in proportion to the number of wells, the per well allowable is reduced and the percentage of the hourly potential is made lower.

Hence, each company operating in the field is confronted with the problem of either drilling enough additional wells to maintain its allowable at a certain figure or to have its allowable decreased each month. As the average cost of drilling a well in East Texas is about $15,000, the drilling of 200 wells by any one company and a number have drilled more than that number in a year, means the expenditure of $3,000,000 for equipment and drilling by that company alone.

Much of the trouble is due, it is claimed, to the rather free way in which drilling permits have been granted regardless of distances from other producing wells. Operators do not blame those connected with the Railroad Commission entirely for this situation. They say many applications for permits are turned down by the Railroad Commission only to have some court issue an injunction restraining the Commission from interfering with the drilling of such wells.

Rule 37 of the conservation laws of Texas, was amended by the legislature insofar as it applies to the East Texas Field to read as follows: "No well for oil or gas shall hereafter be drilled in said East Texas Field nearer than 660 feet to any other completed or drilling well on the same or adjacent tract or farm; and no well shall be drilled in said field nearer than 330 feet to any property line, lease line or subdivision line; provided that the Commission in order to prevent waste, or to prevent the confiscation of property will grant exceptions to permit drilling within shorter distances than above prescribed whenever the Commission shall determine that such exceptions are necessary either to prevent waste or to prevent the confiscations of property. When an exception to such rule is desired, application therefore shall be filed with the Commission, fully stating the facts, which application shall be accompanied by a plat drawn to the scale of 1 inch equalling 400 feet, accurately showing to scale the property on which the permit is sought to drill a well under an exception to this rule, and accurately showing to scale all other completed, drilling, and permitted wells on said property; and accurately showing to scale all adjacent surrounding properties and wells."

Two closely drilled wells in the Kilgore townsite, East Texas

The Commission engineers then check the properties described and make recommendations as to whether or not a permit should be granted for drilling the "exception" well.

As stated above, the Commission turns down many requests for wells that are exceptions to the spacing rule, but the courts apparently are not of the same mind as the Commission in regard to the determining of "that such exceptions are necessary either to prevent waste or to prevent the confiscation of property," consequently hundreds of permits are granted that are exceptions to Rule 37, the Commission being helpless to prevent their drilling after an injunction is procured allowing the drilling of the wells.

As a result the matter of close spacing of wells in certain sections of the field and in the Kilgore townsite is a joke. Two wells are producing from the front yard of a home in Kilgore and the yard is not large. On one block which covers 1.32 acres in Kilgore, there are four producing wells and a derrick is up for a fifth and an operator has applied for permits to drill two more wells on the same block. When a well is drilled the derrick, frequently is taken down and the well, which is flowed in producing, simply has a pipe out of the ground and a connection to the pipe line. Because of this, wells can be drilled very close together.

On a church lot there are two producing wells .There are about 150 wells producing in the Kilgore townsite, many lots and blocks having more than one well each.

In the Hooper Survey, Gregg County, there are 11 wells on 20 acres, and many tracts of less than 1 acre have at least one well each and sometimes more. One 1-acre tract in the north end of the field has three wells, and where the highway department straightened the highway between Longview and Gladewater, operators obtained permits and drilled eight wells on the small tract located between the old and new highway. On a church lot in London can be seen five producing wells, and a cemetery in Gregg County has one well.

The State of Texas has not been negligent in allowing close drilling in the Sabine River bed, which is State School land, but drilled by different companies. One company drilled a set of wells on its tracts in the river, came back and drilled another set between the first wells, and is now drilling another set between the second set of wells. And

(Continued on Page 125)

Showing close drilling in the Kilgore townsite. Derricks have been removed from some producing wells in the area shown in the picture. The City Hall can be seen at the right

So anxious were operators to drill up every bit of prospective oil-bearing land in East Texas, the principal hotel in Kilgore was cut in half and a well drilled through the cutout space

Chopping Down THE HIGH COSTS OF ROTARY POWER

THIS kind of Diesel-electric power quickly pays for itself on any location where water is scarce or where natural gas is limited or not available. Draw works, rotary table, mud pumps — all can be driven safely, smoothly, dependably, and at minimum expense.

One company has been using a pair of Cooper-Bessemer Diesels for Diesel-electric drilling, similar to the one illustrated, for more than four years.

Cooper-Bessemer engineers have made a most intensive study of the operating characteristics of Diesel A. C. and D. C. drives, also Diesel direct drives. The very latest records are available to you.

THE COOPER-BESSEMER CORPORATION

Mt. Vernon, Ohio — PLANTS — Grove City, Pennsylvania

640 East 61st Street, Los Angeles, Calif. — 201 East First Street, Tulsa, Oklahoma — Magnolia Building, Dallas, Texas — 25 West 43rd Street, New York City — 225 Crockett Street, Shreveport, La. — 505 Esperson Building, Houston, Texas

A Cooper-Bessemer 300 H. P. Type FP six-cylinder Diesel engine with atmospheric relief injection system, radiator and direct-current generator, all mounted portably on sub-base for Diesel-electric drilling

NEWS FROM FOREIGN LANDS

SOCONY-VACUUM

Additional contracts for the purchase of petroleum products by the Socony-Vacuum Oil Co., Inc., from the oil administration of the U.S.S.R. are now being closed according to information which has been confirmed by the parties concerned. One agreement which has been signed covers the delivery of 700,000 bbls. of fuel oil with a maximum of 1,750,000 bbls. The fuel is for delivery in the Near East during 1935. Additional contracts are pending for 200,000 bbls. of Diesel oil and gas oil and 500,000 bbls. of gasoline and kerosene. The latter is for delivery in Egypt.

The Socony-Vacuum since the merger of the Standard of New York and the Vacuum Oil Co. has acquired other contracts originally made by the Standard unit. Deliveries on some of the contracts covering both crude oil and refinery products are still being made. It is estimated that these contracts in 1934 totaled approximately $15,000,000.

U. S. S. R.

The expansion of trading relations between the U.S.S.R. and the United States in which manufacturers of oil field, transportation and refining equipment are particularly interested is dependent on the establishment of normal prices, credit and the necessary rediscount arrangements, Ivan V. Boyeff, newly appointed chairman of the Amtorg Trading Corp., told members of the American-Russian Chamber of Commerce at its meeting this month.

Mr. Boyeff spoke optimistically of the probable purchases of equipment in the United States, but explained that "certain prerequisites" were necessary before trading could start on a large scale. Regarding the needed developments, he said in part:

"First, the creation of normal conditions for the sale of Soviet export products.

"Second, normal prices and normal cost of credit; by the latter we mean that interest rates should not exceed existing discount rates in the respective countries.

"Third, the creation of facilities for discounting and rediscounting acceptances of the trading organizations of the U.S.S.R. in banks and other financial institutions.

"I think it worth while to recall here that during the entire 17 years of the existence of the Soviet Union, it has always met its payments punctually. As you know, during all the years of the world economic crisis, unprecedented in its intensity, when not only many private firms and banks have failed but entire countries and governments have suspended payments, the Soviet Union has been almost the only country in the world which has fully met all of its obligations.

"Last year we concluded our foreign trade operations with a favorable balance and increased our gold reserve considerably. With the general economic growth and the further strengthening of the economic independence of the U.S.S.R., the current year presents even more favorable prospects in all fields.

"Naturally, under these conditions it is out of the question for the U.S.S.R., in its trade relations with foreign countries, to accept conditions inferior to those enjoyed by other countries. In a number of countries our position is understood and deemed sound. I hope that industrial and financial circles in the United States will approach this question in their usual common-sense and business-like manner and also find the propositions which I have outlined logical and acceptable.

"Some people say that this marks a new era in the foreign trade of the Soviet Union. I do not know whether you can exactly call it that. At any rate, I am sure that this is the policy that the U.S.S.R. intends to carry out in its trade relations with all countries.

"These principles are so essential a part of Soviet foreign trade policy that in case normal credit conditions should not be available in any particular country, I believe the U.S.S.R. would prefer to buy on a cash basis. However, in this event it should be clearly understood that such purchases will be confined solely to those articles which we still have to import from abroad. Under these conditions it will be impossible to count on a large volume of purchases in those countries."

The latest available government reports show a substantial decrease in exports of refinery products from the U.S.S.R. and only a small increase in crude oil exports. There also has been considerable change in the countries that have purchased products. There has been a large increase in the case of Spain with a decrease in sales to most of the other European countries.

The following table gives the exports for the nine months of 1934 and 1933 and also the exports to the principal buyers of Russian oil products (data in tons):

	1934	1933
Gasoline	879,492	1,078,873
Crude oil	165,111	152,939
Kerosene	309,431	478,290
Lubricating oil	209,975	188,970
Diesel oil	57,734	76,191
Fuel oil	965,709	1,331,385
Asphalt	24,346	26,652
Paraffin wax	9,378	8,424
Other oils	702	260
Total	3,049,881	3,692,030

PRINCIPAL COUNTRIES

France	530,736	572,809
Italy	480,102	807,836
Spain	389,957	273,053
All British countries	340,236	264,543
Germany	308,238	364,549
Sweden	148,116	187,947
Belgium	113,924	206,940

ARGENTINA

The most important development of the past year in Argentine oil operations was the increase in crude oil production in the Province of Salta in the northern part of the Republic. Drilling has greatly increased in that area over the past few months according to a government report and this in turn has brought an increase in output.

The government reports show that the present production of the Salta area is approximately 6,500 bbls. daily. Over 6,000 bbls. daily of this total is produced by the subsidiaries of the Standard Oil Co. of New Jersey. The remainder is produced by Argentine government oil fields. Due largely to this increased output of the Salta region, Argentine will show a gain over 1933 in total crude oil production when 1934 final figures are available. It is estimated that the daily average for 1934 will be around 38,000 bbls. daily.

GERMANY

An organized effort to increase the consumption of regenerated oil is under way in Germany, according to a report to the commerce department from Trade Commissioner George R. Canty, Berlin.

Official circles, it is pointed out, have drawn attention to the fact that great values are being lost annually by the waste of secondary use of old industrial and automobile oils, the greater part of which, they claim, could be saved and reused for their original purpose.

In order to suppress imports at an estimated value of several million reichsmarks a year, the ministers of economics and transportation have pointed out the significance of this matter to the authorities, public bodies, the Nazi party officials, and business circles, and have asked their support in a campaign for the collection of old oil and the use of regenerated oils.

Germany has only limited crude oil resources and is therefore obliged to import the major part of its requirements. As is well known, the foreign exchange situation is forcing Germany to limit these imports as much as possible, so the authorities are demanding as a national duty that all concerned contribute toward the careful handling and complete exploitation of all available supplies.

According to press reports, practical experience in the use of regenerated oil in Germany has been so satisfactory that numerous operators of car and truck fleets are already using this type of oil almost exclusively. Methods have been developed which assure a satisfactory regeneration and furnish a product practically as good as the new oil. However, a warning has been issued against the purchase of doubtful new processes which are being offered and which, as tests have shown, will not produce a satisfactory product.

Battery of oil field boilers in Comodoro Rivadavia in Patagonia, southern part of Argentina. Boilers are part of the operation of "Astra" Compania Argentina de Petroleo, S. A.

FRANCE

Crude runs to stills at refineries the first 11 months of 1934 averaged in excess of 80,000 bbls. daily, according to government reports. The average crude oil imports averaged more than 80,000 bbls. daily and to this is added a small domestic crude oil production refined at plants in France. It is anticipated that due to the additional crude oil available from Iraq and the completion of new plants and the enlargement of old refineries that crude runs to stills in France will average more than 100,000 bbls. daily in 1935.

The following table gives the imports of crude oil and refinery products for the first 11 months of 1934 and 1933 (data in tons):

	1934	1933
Crude oil	3,816,657	2,430,432
Gasoline	976,303	1,620,750
Kerosene	36,664	84,495
Lubricating oil	145,265	182,628
Gas oil	210,500	335,500
Fuel oil	257,000	588,400
Road oil	49,250	76,800

MEXICO

The following values covering production and export taxes have been established for January (calculated in silver at exchange of 3.60):

VALUES

	Silver pesos per cubic meter	U.S. currency
Fuel oil	27.17	$1.20 bbl.
Gasoline	79.31	.0334 gal.
Kerosene	54.59	.0574 gal.

PRODUCTION TAXES

	Tax per c.m.-pesos	Tax in U.S. currency
Crude (sp. gr. 0.93— Be. 20.38	3.140	$0.13866 bbl.
Crude (sp. gr. 0.96— Be. 15.68) or heavier	1.907	.08422 bbl.
Fuel oil (sp. gr. 0.95— Be. 17.21)	2.934	.12957 bbl.
Gasoline (crude)	3.172	.00334 gal.
Gasoline (refined)	1.586	.00167 gal.
Kerosene (crude)	3.275	.00344 gal.
Kerosene (refined)	1.638	.00172 gal.

The production tax on fuel oil will vary approximately .01062 per barrel for each degree of specific gravity above (deduct) or below (add) .095 specific gravity.

The production tax on light crude will vary approximately .01137 per barrel for each degree of specific gravity above (deduct) or below (add) .093 specific gravity.

EXPORT TAXES

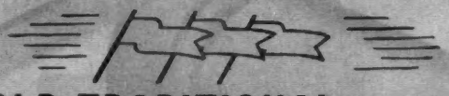
Note: As export taxes are payable in silver at par, to make calculations in U. S. currency, take figures given below, multiply them by 2 and divide by rate of exchange at time of payment.

	U. S. currency ($1 for 2 pesos)
Crude (sp. gr. 0.93— Be. 20.38)	$0.07949 bbl.
Crude (sp. gr. 0.96— Be. 15.68) or heavier	.04928 bbl.
Fuel oil (sp. gr. 0.95— Be. 17.21)	.05962 bbl.
Gasoline (crude)	.00472 gal.
Gasoline (refined)	.00189 gal.
Kerosene (crude)	.00151 gal.
Kerosene (refined)	.00057 gal.

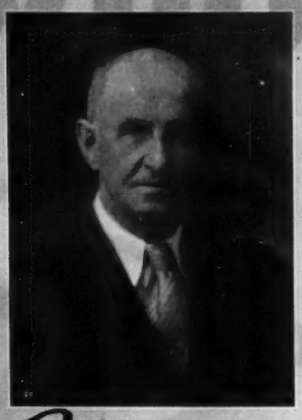
Labor difficulties between management and employes of the Mexican Eagle Oil Co. (Shell) in Mexico have been settled satisfactorily by arbitration according to reports the latter part of last week. The employes received a 10 per cent increase in wages and will be paid part of their wages during the strike period. Certain other requests were denied.

The strike was supported by employes of other companies and threatened for a time to result in a famine in gasoline and other products in sections of Mexico.

THREE GENERATIONS
WORKING TOWARDS A SINGLE PURPOSE



TO UPHOLD TRADITIONAL . . . . . .
JARECKI
Standards of Service



J. A. (Uncle Joe) STANTON

F. H. STANTON

WALTER E. STANTON

● To oil men in the Illinois fields, J. A. (Uncle Joe) Stanton is as much an institution as the Lawrenceville store of the Jarecki Manufacturing Co., whose interests he has served since 1887.

At the Jarecki store in El Dorado, Kansas, you will find F. H. Stanton, son of Uncle Joe and just as eager to serve; while at Chase, Kansas, following in the footsteps of his father and grandfather, is Walter E. Stanton, representative of the younger generation.

Three generations of Jarecki employees serving many an oil man whose father and grandfather bought Jarecki products with the same degree of safety and satisfaction as the oil men of today! Is there any better way to indicate the soundness of Jarecki products or the dependability of Jarecki Stores?

Home Office and Factory: Erie, Pa., U. S. A.

Jarecki

MANUFACTURING COMPANY

"Since 1852"

Branch Stores at all important places in the Oil Country.

General Offices: St. Louis, Mo.

District Offices { Pittsburgh, Pa.; Tulsa and Bartlesville, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.

"OILWELL" Introduces

WEARS MANY TIMES LONGER! WON'T SCORE—SAVES PISTONS

Actual field tests, checked on revolution counters, have proved "OILWELL" Di-Hard Slush Pump Liners **outwear** the ordinary heat-treated steel liners four to five times. That means a tremendous saving!

The inner walls of these liners are armored from end to end with I. R. Metal of uniform wall thickness. The bond between the lining and the Liner is perfect . . . the two metals are actually **fused** together.

The I. R. Metal lining is amazingly hard, resulting in maximum resistance to wear and abrasion. Di-Hard Liners are precision ground to a mirror finish, which, together with the inherent low co-efficient of friction of I. R. Metal, results in maximum piston and liner life.

OIL WELL SUPPLY CO.

Subsidiary of United States Steel Corporation

Branch Stores in all Oil Fields

"OILWELL"

DI-HARD

TRADE MARK

I. R. METAL
SLUSH
PUMP
LINERS

New Metal Has Amazing Properties

I. R. Metal is a ferrous metal (patented) which is composed largely of carbon and iron with minor quantities of other elements. It is produced by a special manufacturing process which accurately controls the analysis and physical properties.

• • •

DI-HARD . . . has 900 Monotron Diamond Brinell Hardness; will cut glass.

DI-HARD . . . has extremely low co-efficient of friction.

DI-HARD . . . can be ground to a mirror finish.

DI-HARD . . . is ultra resistant to wear and abrasion.

DI-HARD . . . resists corrosion.

DI-HARD . . . bonds perfectly with steel.

Applied by Special Fusion Process

Since the melting point of I. R. Metal is 2000° F., it is possible to line steel cylinders with the Metal when it is in a molten condition. This is done by a centrifugal or spinning process when both the I. R. Metal and the tube are at the same temperature, resulting in a perfect fusion bond. The method of application is fully patented.

New Liners for All Sizes of "OILWELL" and WILSON-SNYDER Slush Pumps

Di-Hard Liners are made by "OILWELL's" highly skilled workmen, using the most modern and advanced furnace equipment and machine tools.

• • •

The Oil Well Supply Company is the exclusive manufacturer and distributor throughout the world for Di-Hard Slush Pump Liners for use in Slush Pumps.

2920

"OILWELL"

The Oil and Gas Journal

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published Weekly By

THE PETROLEUM PUBLISHING COMPANY

114-16 West Second Street, Tulsa, Oklahoma

P. C. LAUINGER, President and Gen. Mgr.

ANDREW M. ROWLEY, Editor

W. T. ANDERSON, Managing Editor

JAMES McINTYRE, Consulting Editor

C. O. WILLSON, Refinery Editor

L. G. E. BIGNELL, Petroleum Engr. Editor

Established 1910 by PATRICK C. BOYLE

E. KLAPPENBACH, Advertising Manager

C. K. FRANCIS, Ph.D., Technical Editor

W. T. ZIEGENHAIN, Associate Editor

THOMAS F. SMILEY, Associate Editor

M. F. BALDWIN, Circulation Manager

S. H. ROURKE, Business Manager

Branch Editorial Offices

CANADA, Victor Lauriston
DENVER, Tolbert R. Ingram
FT. WORTH, L. E. Bredberg
HOUSTON, Neil Williams
CHICAGO
LOS ANGELES, L. P. Stockman
NEW YORK, C. O. Willson
MICHIGAN, Paul A. Elliott
OIL CITY, Robert C. Conine
SHREVEPORT, J. R. Crumpton
TOLEDO, George A. Whitney
WASHINGTON, Hugh D. Mallon
PITTSBURGH

Branch Advertising Offices

NEW YORK CITY, C. L. Cain
CHICAGO, C. R. Farmer
CLEVELAND, Howard Markt
HOUSTON, Paul T. Putnam
LOS ANGELES, J. H. Tinkham

(For representatives' complete addresses see contents page)

Member, Audit Bureau of Circulations

New Domestic Demand Peak

With all its attention concentrated on climbing out of the hole it has been in, the oil industry has not had time to look about and see how much progress it actually has made. The annual review of the petroleum industry published in this issue of The Oil and Gas Journal offers such a vantage point.

The facts and figures show a remarkable improvement during the past 12 months. The producing branch is in the healthiest condition in several years. The manufacturing division has rapidly recovered the comparatively small decrease in its domestic markets during the depression, with every hope of establishing a higher record in 1935.

The peak year for domestic gasoline demand was in 1931 when it passed 403,000,000 barrels. Preliminary figures from the Bureau of Mines indicate domestic consumption last year surpassed this, being between 405,000,000 and 406,000,000 barrels, establishing a new all time peak for domestic demand.

The peak of total demand, export and domestic, was in 1930 when it reached 460,000,000 barrels, made up of 395,000,000 domestic and 65,000,000 export. Last year exports were only around 25,000,000 barrels.

Stocks are being lessened. The fear of overproduction is passing. The dumping of accumulated East Texas stocks released by court order, which would at one time have demoralized the whole market, was minimized to a momentary flurry.

The situation is nearing the stage where it is being realized that it is in the interest of everyone with anything at stake to avoid rocking the boat. There is an increased disinclination to disturb the market.

The basis of this psychology is, of course, the feeling that the industry is on the way to better times. There is no more talk of a cut in the price of crude, so general a short time back. Instead, the predictions are now just the other way, arguments being only over how far it may go.

This is the more significant because speculation about East Texas has settled down to a conviction that it is going to last a considerable time. We are assured of all the oil we can need for some time to come but beyond that point opinions differ.

Some maintain that the drill has always been able to maintain a supply equal to our needs, and presumably always will. Others, not so certain about that, are already looking beyond the next few years and seeking reserves for the future. The expansion in exploratory work during the past few months has been the most remarkable feature of field work in the past year.

It may be because we have become accustomed to measure everything by East Texas but the fact most frequently commented upon is that although many pools were opened in 1934 there were few of importance. They could be counted on the fingers of one hand, two in Oklahoma, one in Kansas, one in Southern Louisiana and one in New Mexico.

There has not been so much difficulty in finding oil as in finding pools that would compare with major areas of other days, East Texas excepted. They are contrasted with the 11 pools discovered in four states that made the four-year period, 1920-23, memorable.

The decline in drilling during the depression was reflected in fewer discoveries, the Conroe Field being the one outstanding area found since 1930 in addition to the Midland Field in Michigan.

When it is considered that 15 pools produced more than half of the oil in 1934 and that, taken as a whole,they are tending downward, the desire to uncover more reserves for the not remote future can be understood.

So last year the total of completions rose to 18,197 contrasted with 12,312 in 1933 which was the lowest in 10 years. There is every indication that many more wells will be drilled this year, outside of East Texas, while in that area the continuance of regulation reducing the allowable, per well, as the number of wells increases will force additional drilling.

The improved statistical position of the producing division at the close of 1934 was mirrored in the crude market. Where the industry produced 901,273,000 barrels in 1933 averaging 66 cents a barrel the 903,104,000 barrels produced in 1934 brought an average of 98 cents.

Unfortunately this was not reflected in the refining and marketing branches, largely through their own responsibility. While some progress was made in bringing manufacturing operations more in line with demand and a somewhat better average refined oil price was obtained the gasoline market continued out of line with crude throughout the year.

The refinery gasoline price was slightly better than 1933, which was the lowest point in 10 years, but it was below 1932 and not half what it was in 1929.

The average service station price, exclusive of taxes, in 50 cities, was only 13.60 cents against 12.76 in 1933, 13.30 in 1932 and 13.09 in 1931 contrasted with 16.33 and above in the previous six years.

The 50 cities service station price, without taxes, was only 84 hundredths of a cent above 1933 and the refinery price only 81 hundredths of a cent above 1933.

Yet with the restoration of normal prices in the crude market the cost of raw material called for at least a 2-cent improvement in the refinery price of gasoline, without counting the additional expenditures entailed by the code and those resulting from the rising trend of general prices.

However, the steadiness of the market under the latest alarm from East Texas and the persistent efforts under way to overcome the practices which have kept the refinery and station prices at low levels create hope that, with a new record in domestic demand at hand, the manufacturing and marketing divisions are determining upon a stabilization program that will reflect and sustain the stability in the production branch of the industry.

Washington has been occupying entirely too much of the time and thought of the industry. Speculation on congressional action and the expiration of the code is being crowded aside by day to day developments in the business. The general conviction that the industry is definitely out of the rut, that it is neither going to slip back or run wild, is having a steadying influence in every department. That is the best sort of forecast for 1935.

"The Oil Bank of America"

Loaning Money on Oil Production

Through intelligent financing, the National Bank of Tulsa is playing an important part in the sound development of the petroleum industry.

Wherever production is located in the Mid-Continent Field, you will find the facilities and resources of this bank adequate to meet your needs.

Officers and Directors of the National Bank of Tulsa have had broad experience and an understanding of the problems and needs of oil producers. Mid-Continent operators are invited to submit their financial requirements to us for prompt and careful consideration.

NATIONAL BANK OF TULSA

TULSA OKLA.

E. I. HANLON, *Chairman* A. E. BRADSHAW, *President*

Capital and Surplus $8,000,000 . . . . . Resources Exceed $45,000,000

MEMBER FEDERAL RESERVE SYSTEM

THE OIL BANK OF AMERICA

New Court Action Regarding Illegal Products in East Texas Adds to Confusion in Group 3

By T. F. SMILEY

The gasoline market continued to trail its uneasy way in the Group 3 market this week, following developments in connection with large stocks of oil and oil products in East Texas stored prior to December 10, effective date of the Texas Railroad Commission's order requiring shippers to show material offered for transportation had not been produced illegally. First court decisions in injunctions suits handed down January 19 released all these accumulations. They were thrown on the market and much of the material already had been bought when on Monday of this week another court decision granted a stay order which had the effect of holding in abeyance the previous court action. The fact that much of the material purchased had already been moved from the field added to a confused situation.

Revised estimates indicate there were 350,000 bbls. of "hot" gasoline in the East Texas district prior to December 10, although these estimates do not harmonize with inventories as of that date submitted to the Railroad Commission.

Material Already Moved

It was reported this week that 250,000 bbls. of this motor fuel had been bought and moved to the Gulf Coast for export or coastwise shipment. One buyer was said to have taken 195,000 bbls. of this total. It is supposed that under the stay order of the court handed down Monday whatever of this material has already been moved to the Gulf will be held there until the entire situation has been cleared up. Besides this it was said close to 25,000 bbls., most of it from East Texas and representing scattered stocks released by the first court decision, had been rushed northward Friday to brokers and other buyers. Virtually all of this latter material was understood still to be in transit early this week, and its presence at various points added to the jumpy feeling manifested by the market.

Accepting the estimate of 350,000 bbls. as representing the gasoline released by the court and 275,000 bbls. as the quantity purchased and probably removed from the field, it would appear that some 75,000 bbls. of the motor fuel of illegal origin still remains there to be disposed of. In addition there are estimated to be 2,600,000 bbls. of crude and 2,125,000 bbls. of fuel oil and other refinery products. The potential gasoline represented by this crude and fuel oil is not conducive to a feeling of security.

Notwithstanding the unsettling effect of the week's developments gasoline tank car prices, after the scare created by the court's action had begun to wear off, worked to better levels. For a few days low-octane U. S. Motor was obtainable at 3⅛ cents for reselling. A few frightened sales at 3 cents were reported. Some 350 endpoint went at 3¼. But as a measure of confidence returned with removal from the market of substantial quantities of the material released by the court refiners refused to join in these bargain sales. Those who had motor fuel on which there would be no difficulty in getting tenders were holding it this week for higher prices.

Naturals Acting Well

Natural gasoline continued to act satisfactorily, maintaining the same quotations throughout the list that had been in effect for several weeks. Nobody, it was said, had any large quantity of material to dispose of over and above what was required to move out on contracts. It was expected the demand going into February would not be so brisk as it was on entering January, and it was predicted that unless demand picked up prices were likely to be shaded. Contracts in effect insure a large and steady daily movement.

A trick of the calendar will help to keep the daily shipments of natural at a satisfactory level throughout February. Contracts usually are based on the assumption that a month contains 30 days. As a matter of fact, February will have only 28, with the result that the quantity which would be shipped in two days of a 30-day month will be distributed in the 28 days of February.

Kerosene Lacks Sureness

Kerosene was apparently occupying a less secure position than it did a week ago. Although it showed evidences of firmness and prices held, opinion in informed quarters was that this product might easily begin to slip.

Although burning oils managed to keep quotations intact, it was said the supply was a little ahead of the demand and there was no reason at this time for predicting higher prices.

Outlook for Neutrals Gratifying

Satisfaction over the outlook for the lubricants was expressed. The position of the neutrals was regarded as especially gratifying. It was pointed out that inventories in the Mid-Continent territory were smaller at the opening of 1935 than they had been at a similar period in five years. At the beginning of 1933 the Mid-Continent territory had 77 days' supply of neutrals on hand. At the beginning of 1934 it had 61 days' supply. On January 1, 1935, it had only 36 days'.

Bright stocks were viewed as looking a little better than they did a week ago owing to the fact that the Pennsylvania quotations for this material had risen, and Pennsylvania ordinarily sets the pace for Group 3. Steam-refined stocks were steady. Wax prices remained unchanged and demand was steady.

Refined Oil Market Barometer

Confusion growing out of the changing legal status of large stocks of illegal oil and oil products in East Texas had an unsettling effect on gasoline in various areas and tended to inject disquiet into other divisions of the market. Lubricants offered one of the brighter spots in the picture in most areas except the Gulf Coast, the outlook for neutrals appearing particularly good.

Mid-Continent.—Gasoline weak, but worst of its slump believed over. Naturals holding well. Kerosene fairly steady. Neutrals firm.

East Coast.—Cold snap helps heating oils. Kerosene benefits.

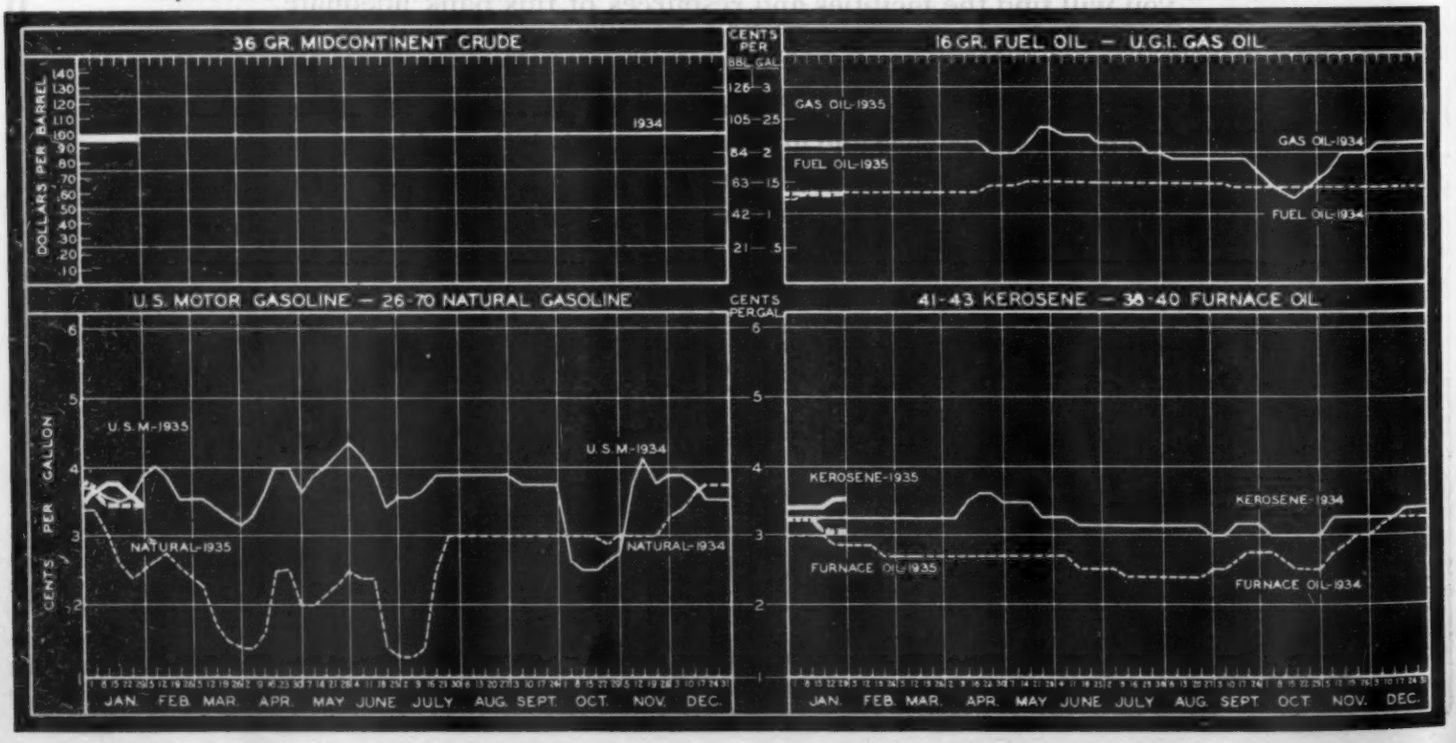
Gulf Coast.—Gasoline unsettled. Lubricants weak, with price shading. Kerosene scarce.

Pennsylvania.—Gasoline firm. Cold weather strengthening demand for kerosene. Improvement in bright stocks reflected in steam-refined.

California.—Heating oils in good demand, but prices unchanged. General market firm.

Chicago.—Market quiet, with a little nervousness in gasoline. Kerosene firm. Cold weather arrives in time to prevent softening of heating oils.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



Cold Weather in East Creates Sudden Activity in the Heating Oils, But Impedes Deliveries

By C. O. WILLSON
New York Bureau, The Oil and Gas Journal

NEW YORK, Jan. 28.—Low temperatures throughout the marketing territory brought over night fresh activity in all grades of fuel and furnace oils with offsetting decline in deliveries of motor fuels to stations. There were no indications that this seasonal change in the business of distributors will be reflected in prices.

With refinery and station gasoline prices on a better basis than any time in several months, many oil company executives are hoping to iron out muddled details of contractual agreements of various types. They still have to contend with contracts covering sales to jobbers dealers and commercial accounts, often tied in with discounts and other special price concessions.

Among the refiners there are those who feel that the Nos. 2, 3 and 4 furnace grades should be advanced to be accompanied with increase in tank wagon prices and no one apparently wishes to take the lead in making these increases effective, which no doubt would bring complaints from consumers.

Market observers are endeavoring to gauge the market significance of a report to the effect that deliveries on heavy fuel oil contracts between the Standard of New Jersey and West Coast made a year ago have been completed and will not be renewed. Storage of residual fuel along the Atlantic seaboard is about 75 per cent greater than a year ago. This market is firm both here and on the Gulf Coast.

Marine demand for fuels is apparently as heavy as it was a year ago and there have been indications recently of an improved industrial demand.

The export gasoline market on the Gulf Coast is easier. The export kerosene market continues strong although buyers report more material available for future delivery.

Two refiners reported more inquiries for both Pennsylvania and western bright stocks. The prices continue extremely low, Pennsylvania stock being available at 22 cents in barrels. Several grades of Pennsylvania steam-refined stock both for export and domestic movement are one-half cent lower.

The local gasoline market has been a sluggish affair. Some improvement was noted in inquiry, but movements were hampered by the snow. Consumption fell off fairly sharply the past few days, but is expected to pick up as the condition of the roads improves. Tank car gasoline prices are holding steady.

SERVICE STATION PRICE ADVANCED BY STANDARD

NEW YORK, Jan. 28.—The Standard Oil Co. of New Jersey, effective today, advanced the gasoline service station prices one-half cent in New Jersey, with the exception of Camden. No change was made in tank car prices. This change has the effect of increasing the margins between the delivered tank car prices and service station prices from 5 to 5½ cents.

The heavy fall of snow throughout the Northeast has quite naturally brought about a slump in use of the automobile, but prices, nevertheless, with the excepted of western New York, are holding up well. Jobbers while following the market closely show little disposition to purchase ahead at the present time. The jobbing demand is somewhat more restricted than heretofore.

Considerable price cutting has been going on the past few weeks in the western part of the State.

The export inquiry for gasoline is a trifle more active but no foreign purchases worthy of special mention have come to light of late. Europeans have been following the kerosene situation more closely, but no bulk sales have been revealed.

The kerosene market has benefited to a considerable extent by the sharply lower temperatures prevailing. The consumption as in the case of the fuel oils is larger than heretofore and prices which have been strengthening are becoming increasingly buoyant. However, refiners here still are posting 6¼ cents a gallon for 41-43 water white in tank cars, at the refineries.

The zero cold test oils are moving in a slightly larger way at unchanged prices.

Varnish makers and painters naphtha is in slightly better demand and refiners anticipate further improvement as the spring draws near. Mineral spirits is also attracting more attention than heretofore.

While consumption of fuel oil has registered a sharp gain and demand is more active than it has been in weeks, distributors are reported to be encountering great difficulty in some localities in making deliveries owing to the large snow drifts that are blocking many of the highways, particularly in the suburbs. One local company reported that several of its trucks were caught in the snow. They had to be abandoned until they could be dug out.

While prices have not yet reflected the improvement in consumption, the tone of the market for most of the fuel oils is distinctly improved and if the cold snap proves prolonged a more marked strengthening is looked for.

The more seasonable weather prevailing has stimulated consumption of the various grades of heating oils and the price structure appears somewhat firmer than heretofore. The Philadelphia market however, is reported easier.

Grade C bunker fuel oil is moving in a moderate way at $1.15 a barrel, at the refineries, while consumption of Diesel oil appears to be holding up well at $1.89 a barrel, same basis.

Independent Supply of Benzol Is Japan's Aim

An intensive program of research and industrial development is being carried on in Japan with the object of increasing the production of benzol. Although the domestic manufacture of benzol has increased to such an extent during the past few years that the country is practically self-sufficient in this commodity, serious efforts are being made to perfect various processes which could be employed to produce large quantities should they be needed, according to a report from Assistant Trade Commissioner Donald W. Smith, Tokyo, made public by the Commerce Department's Chemical Division.

Benzol now being produced in Japan is obtained chiefly as a by-product of the coke industry but as the potential output depends almost entirely on the volume of coke manufactured, other methods are being studied.

An engineer of the Japanese Fuel Institute recently published his studies on a method of extracting benzol as a by-product of the coal distillation industry. It is claimed a potential output of 120,000 metric tons is possible by this process, if the entire domestic output of coal tar, which is reported as 150,000 metric tons, is utilized, the report states.

Large gas companies, which heretofore have given little thought to the extraction of benzol from city gas are now installing equipment for its recovery and as the coal consumption in the gas industry is estimated at 1,300,000 metric tons, the amount of benzol which may be obtained from this source is expected to reach 9,000 metric tons, the Assistant Trade Commissioner reported.

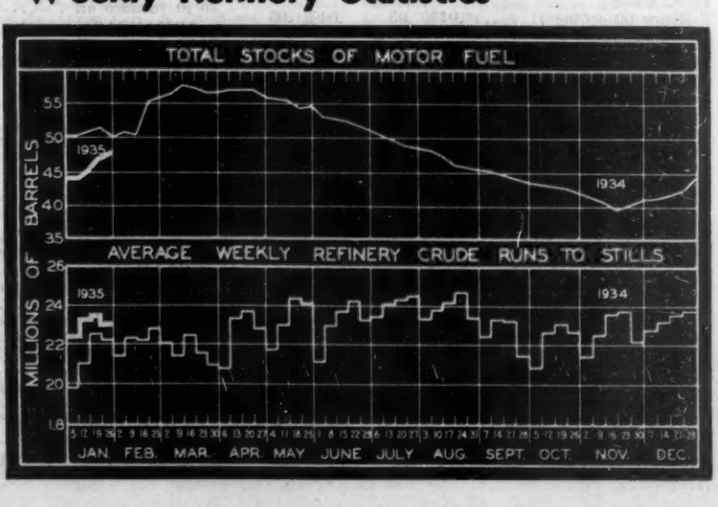
SUMMARY OF STATEMENTS RELATING TO BUSINESS OF THE VARIOUS PIPE LINES FOR MONTH ENDING DECEMBER 31, 1934

	Gross stocks	Runs from wells	Other receipts	Regular deliveries	Other deliveries
Nat. Transit	521,775.59	244,099.68	974,903.06	532,743.98	660,236.36
S. W. Pa. P. L.	360,142.20	72,814.49	750,489.07	486,907.88	384,352.53
Eureka P. L. Co.	908,762.85	243,382.30	303,059.30	341,295.62	216,475.74
Buckeye P. L. (Mackaburg)	225,878.63	220,485.29	135,608.22	255,472.70	104,199.64
Buckeye P. L. (Lima, etc.)	2,170,461.26	50,712.04	1,720,936.58	1,153,590.91	723,182.90
Buckeye P. L. (Cleveland)	48,436.59	11,417.36	170,002.97	1,458.65	190,145.51
Indiana P. L.	381,380.01	.....	1,260,960.10	1,019,283.97	245,706.17
Pure Oil	497,827.00	627,467.00	.....	642,449.00	.....
Southern P. L.	92,338.29	.....	49,052.45	.....	46,916.04
Bradford Trans.	306,068.34	437,442.64	.....	467,675.03	.....
N. Y. Transit	125,182.39	35,996.72	159,308.31	182,455.23	.....
Northern P. L.	242,186.46	.....	434,567.03	151,200.36	289,439.45
Tide Water Pipe	826,467.23	18,918.74	310,691.36	441,548.40	.....
Tuscarora Dev.	6,795.30	.....	.....	272,320.41	.....
Valvoline P. L.	101,067.46	70,636.00	.....	56,464.45	20,063.18
Other companies	149,841.84	326,755.78	568.20	234,894.13	.....
Total December	6,967,621.44	2,380,238.04	6,300,146.65	6,240,720.72	2,880,717.82
Total November	7,298,028.70	2,398,226.61	6,801,840.11	6,299,411.26	3,170,936.80
Difference	—330,407.26	—17,988.57	—501,693.46	—58,690.54	—290,218.98

American Petroleum Institute Weekly Refinery Statistics

Week Ending January 26, 1935

	Capacity reporting per cent	Daily crude runs (bbls.)	Finished motor fuel (bbls.)	Gas oil and fuel oil (bbls.)
East Coast	100.0	417,000	13,281,000	11,551,000
Appalachian	93.3	89,000	2,004,000	1,212,000
Indiana, Illinois, Kentucky	94.6	323,000	8,159,000	4,761,000
Oklahoma, Kansas, Missouri	83.7	246,000	4,798,000	4,004,000
Inland Texas	47.6	90,000	1,288,000	1,813,000
Texas Gulf	97.7	478,000	5,727,000	9,477,000
Louisiana Gulf	96.4	120,000	1,215,000	4,135,000
North Louisiana and Arkansas	83.7	40,000	250,000	477,000
Rocky Mountain	66.7	42,000	737,000	736,000
California	96.9	454,000	10,434,000	65,845,000
Total United States	89.8	2,299,000	47,888,000	104,011,000



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasolines

OKLAHOMA (Group 3)—	Jan. 29		Jan. 22	
U. S. Motor grades:				
Below 63 octane	.03½	.03⅝	.03⅝	.03¾
63-70 octane	.04⅛	.04⅝	.04⅜	.04⅝
60-62 400 grades:				
Below 63 octane	.03½	.03⅝	.03⅝	.03¾
63-70 octane	.04⅜	.04⅝	.04⅜	.04⅝
64-66 375	.04	.04¼	.04	.04¼
68-70 360	.04¼	.04⅜	.04¼	.04⅜
NORTH TEXAS—				
U. S. Motor grades:				
Below 63 octane	.03½	.03⅝	.03⅝	.03¾
63-70 octane	.04⅜	.04½	.04⅜	.04½
60-62 400	.03½	.03⅝	.03⅝	.03¾
64-66 375	.03⅞	.04	.03⅞	.04
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 63 octane	.04¼	.04⅜	.04¼	.04⅜
63-70 octane	.05⅜		.05⅜	
60-62 400	.04¼	.04½	.04¼	.04½
ARKANSAS (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 63 octane	.04¼	.04⅜	.04¼	.04⅜
63-70 octane	.05⅜		.05⅜	
CHICAGO (based on Oklahoma Group 3)—				
U. S. Motor grades:				
Below 63 octane	.03½	.03¾	.03½	.04
63-70 octane	.04⅜	.04¾	.04½	.04¾
60-62 400	.03½	.03¾	.03⅝	.04
64-66 375	.03⅞	.04⅛	.04	.04⅛
68-70 360	.04¼	.04⅜	.04¼	.04⅜
Aviation fighting grade	.04⅞	.05	.04⅞	.05
PENNSYLVANIA (inland refineries)—				
58-60 U. S. Motor:				
Below 60 octane	.04⅜	.04½	.04½	
60-64.9 octane	.05⅝		.05⅝	
65-70 octane	.06		.06	
68-70 350	.05½		.03½	
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.07	.08	.07	.08
58-60 400	.08	.09	.08	.09
EAST COAST—				
U. S. Motor, below 60 octane:				
*New York	.05¾		.05¾	
Baltimore	.05¾		.05¾	
U. S. Motor, 60-64 octane:				
*New York (Bayonne)	†.06		†.06	
Philadelphia	.06		.06	
Boston	.06	.06¼	.06	.06¼
Baltimore	.06		.06	
Charleston, S. C.	.06		.06	
U. S. Motor, 65 and above:				
*New York	‡.06¼		‡.06¼	
Philadelphia	.06¼		.06¼	
Boston	.06¼	.06½	.06¼	.06½
Baltimore	.06¼		.06¼	
Charleston, S. C.	.06¼		.06¼	

*All grades of gasoline one-fourth cent less for small large shipments.
†For New Jersey delivery, 6¼ cents.
‡For New Jersey delivery, 6½ cents.

GULF COAST (domestic)—				
U. S. Motor:				
Below 60 octane	.04¾	.05	.04¾	.05
60-64.9 octane	.05	.05¼	.05	.05¼
65 octane and higher	.05¼		.05¼	

Naphthas

	Jan. 29		Jan. 22	
PENNSYLVANIA (inland refineries)—				
50-52 (blending)	.04	.04¼	.04	
52-54 450 (blending)	.04	.04¼	.04	
54-56 450 (blending)	.04	.04¼	.04	
50-52 450 (blending)	.04	.04¼	.04	
CHICAGO (based on Oklahoma Group 3)—				
50-52 450 (blending)	.03¾	.04	.03¾	.04
Cleaners' naphtha, 56-58 gr., 200 i.b.p., 320 e.p.	.06¾	.07	.06¾	.07
Lacquer diluent, 180 i.b.p., 250 e.p.	.07¾	.08	.07¾	.08
Lacquer diluent, 140 i.b.p., 200 e.p.	.08¾	.09	.08¾	.09
Rubber solvent, 68-70 gr., 100 i.b.p., 300 e.p.	.06¾	.07	.06¾	.07
Stoddard solvent, 300 i.b.p., 410 e.p., over 83° flash	.06¼	.06½	.06¼	.06½
Pet. thinner, 290-300 i.b.p., 415 e.p., over 83° flash	.06¼	.06½	.06¼	.06½
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p., 330 e.p.	.06¾	.07	.06¾	.07
Petroleum spirits	.05¾	.06	.05¾	.06

Natural Gasolines

OKLAHOMA (Group 3)—	Jan. 29		Jan. 22	
Grade 26-70	.03½		.06½	
Grade 18-55	.04⅛	.04¼	.04⅛	.04¼
Low vapor pressure grades:				
14 lb. v.p. (max.)	.04⅝	.04⅞	.04⅝	.04⅞
12 lb. v.p. (max.)	.04¾	.04⅞	.04¾	.04⅞
NORTH TEXAS—				
Grade 26-70	.03¼		.03¼	
Grade 18-55	.03⅞	.04⅛	.03⅞	.04⅛
Low vapor pressure grades:				
14 lb. v.p. (max.)	.04¼	.04½	.04¼	.04½
12 lb. v.p. (max.)	.04⅝	.04⅞	.04⅝	.04⅞
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
Grade 26-70	.03¾	.03⅞	.03¾	.03⅞
CALIFORNIA—				
75-85 375	.06½	.06¾	.06½	.06¾

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)—	Jan. 29		Jan. 22	
41-43	.03½	.03⅝	.03½	.03⅝
42-44	.03⅝	.03¾	.03⅝	.03¾
NORTH TEXAS—				
40-41	.03¼	.03⅜	0.3¼	.03⅜
41-43	.03½	.03⅝	.03½	.03⅝
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
41-43	.03¾		.03¾	
ARKANSAS (Ark., N. La. & Miss. del.)—				
41-43	.03¾		.03¾	
PENNSYLVANIA (inland refineries)—				
45	.04⅝	.04¾	.04⅜	.04½
46	.04¾	.04⅞	.04½	.04⅝
47	.04⅞	.05	.04⅝	.04¾
CHICAGO (based on Oklahoma Group 3)—				
41-43	.03½	.03⅝	.03½	.03⅝
42-44	.03⅝	.03¾	.03⅝	.03¾
CALIFORNIA (Pacific Coast consumption)—				
38-40 high burning test	.04¾	.05¼	.04¾	.05¼
NEW YORK (Bayonne, N. J.)—				
41-43	.06¼		.06¼	
GULF COAST (domestic)—				
41-43	.04¾	.05	.04¾	.05

Petroleum Coke

(Prices per ton f.o.b. refineries in Chicago area)
(Refineries will absorb freight to 80 cents a ton)

	Jan. 29	Jan. 22
Still run	6.00	6.00
Direct from still	6.00	7.00
Egg, nut, pea	7.00	8.50
Lump	8.50	8.50

Furnace Oils and Tractor Fuels

(Zero cold test under 190° flash and good odor)

OKLAHOMA (Group 3)—	Jan. 29		Jan. 22	
32-36 straw	.03	.03½	.03	.03½
36-38 straw	.03½	.03¼	.03½	.03¼
38-40 straw	.03½	.03¼	.03½	.03¼
38-40 prime white	.03¼	.03⅜	.03¼	.03⅜
NORTH TEXAS—				
38-40 straw	.03¼	.03⅜	.03¼	.03⅜
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
36-40 furnace oil	.03	.03⅛	.03	.03⅛
ARKANSAS (Ark., N. La. & Miss. del.)—				
32-36 furnace oil	.03	.03⅛	.03	.03⅛
CHICAGO (based on Oklahoma Group 3)—				
32-36 straw	.03¼	.03⅜	.03¼	.03⅜
38-40 straw	.03¼	.03⅜	.03¼	.03½
38-40 prime white	.03⅜	.03½	.03⅜	.03½
NEW YORK (Bayonne, N. J.)—				
No. 1	.06	.06¼	.06	.06¼
No. 2	.04¾		.04¾	
No. 4	.04¾		.04¾	

Gas Oil, Diesel Oil and Fuel Oil

(Gas oil per gal., Diesel and fuel oils per bbl.)

OKLAHOMA (Group 3)—	Jan. 29		Jan. 22	
32-36 gas oil, cracking stock	.02⅛	.02¼	.02⅛	.02¼
U.G.I. gas oil	.02⅛	.02¼	.02⅛	.02¼
32-36, zero to 15 gas oil	.02¾	.02⅞	.02¾	.02⅞
28-30, No. 3 burner oil	1.10	1.15	1.10	1.15
26-30, zero to 10 fuel oil	.95	1.00	.95	1.00
24-26 fuel oil	.77½	.80	.77½	.80
20-22 fuel oil	.72½	.75	.72½	.75
Below 16 fuel oil	.60	.62½	.60	.62½
NORTH TEXAS—				
32-36 gas oil, industrial	.02¼	.02¼	.02⅛	.02¼
22-26 fuel oil	.67½	.70	.67½	.70
Below 20 fuel oil	.60	.62½	.60	.62½
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
30-32 gas oil, zero	.03	.03⅛	.03	.03⅛
14-16 fuel oil	.70	.75	.70	.75
ARKANSAS (Ark., N. La. & Miss. del.)—				
30-32 gas oil, zero	.03	.03⅛	.03	.03⅛
32-36 gas oil	.02⅞	.03	.02⅞	.03
14-16 fuel oil	.70	.75	.70	.75
CHICAGO (based on Oklahoma Group 3)—				
32-36 gas oil, industrial	.02	.02⅛	.02	0.2⅛
28-30 zero to 10, fuel oil	1.05	1.10	1.05	1.10
26-28 zero to 10, fuel oil	.95	1.00	.95	1.00
22-26 zero to 10, fuel oil	.82½	.87½	.82½	.87½
18-22 zero to 10, fuel oil	.67½	.72½	.67½	.72½
Below 18 fuel oil	.57½	.62½	.57½	.62½

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel in all these areas.

PENNSYLVANIA (inland refineries)—				
30-40	.03¾	.03⅞	.03¾	.04
CALIFORNIA—				
Los Angeles:				
30-34 gas oil per bbl.	1.10	1.26	1.10	1.26
27 plus Diesel	1.10	1.15	1.10	1.15
27 plus Diesel (bunkers)	1.13	1.20	1.13	1.20
12-16 (bunkers at tidewater)	.82½	.85	.82½	.85
10-16 (cargo lots)	.70	.75	.70	.75
12-17 (tank cars)	.62½	.80	.62½	.80
San Joaquin Valley:				
10-18 (tank cars)	.60	.70	.60	.70
San Francisco:				
27 plus Diesel per bbl.	1.15	1.20	1.15	1.20
27 plus Diesel (bunkers)	1.19		1.19	
10-16 (bunkers)	.90		.90	
GULF COAST—				
28-30 gas oil	.03½	.03⅝	.03½	.03⅝
28-30 Diesel (bunkers)	1.70		1.70	
Bunker C (bulk cargoes)	.85	.90	.85	.90
Bunker C (bunkers)	.95	1.00	.95	1.00
NEW YORK (Bayonne, N. J.)—				
27 plus, gas oil	.04¾		.04¾	
28-30, Diesel (lighterage 6½ cents per bbl.)	1.89		1.89	
28-30 Diesel (tank cars)	.04¾		.04¾	
*Bunker C (to ocean-going ships in N. Y. harbor)	1.15		1.15	

*Lighterage charge 5 cents per barrel additional.

Neutral Oils

(Vis. at 100° F. except Pennsylvania, and color N.P.A.)

OKLAHOMA (Group 3)—	Jan. 29		Jan. 22	
Zero to 10 Cold Test:				
150-3	.10		.10	
180-3	.11¼		.11¼	
180-4	.10¾		.10¾	
200-3	.11¾		.11¾	
200-4	.11¼		.11¼	
240-3	.13¾		.13¾	
240-4	.13¼		.13¼	
280-3	.14¾		.14¾	
280-4	.14		.14	
300-3½	.15¼		.15¼	
400-4	.17¼		.17¼	
100-2 paraffin oil	.05¾		.05¾	
15-20 Cold Test:				
200-3	.10¾		.10¾	
200-4	.10¼		.10¼	
240-3	.12¾		.12¾	
240-4	.12¼		.12¼	
280-3	.13¾		.13¾	
280-4	.13		.13	
GULF COAST—				
Pale Oils:				
200-3	.07⅛	.07½	.07⅛	.07½
300-3	.07½	.08	.07½	.08
500-3½	.08½	.09	.08½	.09
750-3½	.09	.09¼	.09	.09¼
1,200-3½	.09½	.09¾	.09½	.09¾
2,000-4	.09¾	.10	.09¾	.10
Red Oils:				
200-5-6	.07	.07¼	.07	.07¼
300-5-6	.07¼	.07½	.07¼	.07½
500-5-6	.08	.08½	.08	.08½
750	.08½	.09	.08½	.09
1,200-5-6	.09¼	.09½	.09¼	.09½
CALIFORNIA (Moving to domestic market)—				
Pale Oils:				
100-2½-3	.12½	.14½	.12½	.14½
200-2½-3	.12½	.14½	.12½	.14½
300-3-3½	.12½	.14½	.12½	.14½
350-3-4	.12½	.14½	.12½	.14½
400-3-4	.12½	.14½	.12½	.14½
450-3-4	.12½	.14½	.12½	.14½
550-3-4	.12½	.14½	.12½	.14½
600-3-4	.12½	.14½	.12½	.14½
Red Oils:				
200-4-5	.12½	.14½	.12½	.14½
300-5-6	.12½	.14½	.12½	.14½

350-5-6	.12½	.14½	.12½	.14½
400-5-6	.12½	.14½	.12½	.14½
450-5-6	.12½	.14½	.12½	.14½
500-5-6	.12½	.14½	.12½	.14½
600-5-6½	.12½	.14½	.12½	.14½
700-6½ plus	.12½	.14½	.12½	.14½
750-6½ plus	.12½	.14½	.12½	.14½
900-6½ plus	.12½	.14½	.12½	.14½
PENNSYLVANIA—				
150 vis. at 70° F., 3 color, 400-405 flash:				
Zero pour test	.24½	.25	.24½	.25
10 pour test	.23½	.24	.23½	.24
15 pour test	.23	.23½	.23	.23½
25 pour test	.22	.22½	.22	.22½
180 vis. at 70° F., 3 color:				
25 pour test	.24½	.25	.24½	.25
200 vis. at 70° F., 3 color:				
Zero pour test	.30½	.31	.30½	.31
10 pour test	.29½	.30	.29½	.30
15 pour test	.29	.29½	.29	.29½
25 pour test	.28	.28½	.28	.28½

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	Jan. 29	Jan. 22
Bright Stocks:		
190-200 D	.16½	.16½
150-160 D, 0-10	.13½	.13½
150-160 D, 10-25	.13	.13
150-160 24-40	.12½	.12½
150-160 E	.12½	.12½
Steam refined:		
630 light green (treated)	.07½ .08	.07½ .08
600 light green (untreated)	.06 .08	.06 .08
600 dark green (untreated)	.04½ .07	.04½ .07
PENNSYLVANIA—		
Bright Stocks (Pennsylvania grade, No. 8 color, 145-50 at 210; 540-550 flash):		
10 pour test	.18½ .19	.18 .18½
15 pour test	.17½ .18	.17 .17½
20 pour test	.16 .16½	.15½ .16
25 pour test	.15½ .16	.15 .15½
Steam refined:		
600	.08 .09	.08 .09
650	.10 .11	.10 .11
600 Pennsylvania flash	.11 .12	.11 .12
630 flash	.16 .17	.16 .17
600 Warren E filtered	.12 .13	.12 .13

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	Jan. 29	Jan. 22
124-126 white crude scale	.03⅛ .03¼	.03⅛ .03¼
PENNSYLVANIA—		
122-124	.0300 .0305	.0300 .0305
124-126	.0305 .0310	.0305 .0310
NEW YORK—		
Wax (a.m.p.) in bags fully refined:		
120-122	.0420 .0430	.0420 .0430
123-125	.0440 .0460	.0440 .0460
125-127	.0445 .0470	.0445 .0470
130-132	.05 .0510	.05 .0510
133-135	.0545 .0570	.0545 .0570
135-137	.0570 .0595	.0570 .0595
124-126 crude scale	.03 .0310	.03 .0310
Petrolatum in barrels in carload lots:		
Dark green	.01⅞	.01⅞
Amber	.02⅞ .03	.02⅞ .03
Extra amber	.03 .03⅛	.03 .03⅛
Lily white	.06⅝ .06¾	.06⅝ .06¾
Snow white	.07¾ .07⅞	.07¾ .07⅞
Cream	.05⅝ .05¾	.05⅝ .05¾
CHICAGO (f.o.b. switching district)*—		
122-124 wax	.0490 .0500	.0490 .0500
125-127 wax	.0515 .0525	.0515 .0525
127-129 wax	.0530 .0540	.0530 .0540
130-132 wax	.0590 .0600	.0590 .0600
132-134 wax	.0615 .0625	.0615 .0625

*Cents per pound on carlot orders in burlap bags of 225 lbs. approx. Add 3° F. a.m.p.

Export Prices

GASOLINE

GULF COAST—	Jan. 29	Jan. 22
U. S. Motor	.04⅜ .04½	.04½ .04⅝
60-62 400	.04½ .04⅝	.04¾ .04⅞
61-63 390	.04⅝ .04¾	.04⅞ .05
64-66 375	.04⅞ .05	.05 .05⅛
LOS ANGELES, CALIF.—		
U. S. Motor grades:		
53-55 octane	.04 .04¼	.04 .04¼
55-65 octane	.04¼ .04½	.04¼ .04½
65-67 octane	.04½ .04¾	.04½ .04¾
67-69 octane	.04¾ .05	.04¾ .05
Above 69 octane	.05 .05¼	.05 .05¼
58-60 400 endpoint	.04¾ .05½	.04¾ .05½

KEROSENE

GULF COAST—				
41-43 prime white	.04¾	.04⅞	.04¾	.04⅞
41-43 water white	.05		.04⅞	.05
44 water white	.05⅛	.05¼	.05⅛	.05¼
LOS ANGELES, CALIF.—				
41-43 water white	.04½	.04¾	.04½	.04¾

LUBRICANTS

NEW YORK (f.a.s. in bbls.)—				
Cylinder Stocks:				
600 Warren E	.19	.19½	.19	.20½
600 S.R. unfiltered	.14	.14½	.14½	.15
650 S.R. unfiltered	.16½	.17	.17	.18
600 flash S.R.	.17½	.18	.18	.18½
630 flash S.R.	.22	.22½	.22½	.23
Bright Stocks:				
8 color	.22	.22½	.22	.22½
6½ plus colors in dilution	.21	.21½	.21	.21½

NEUTRAL OILS

200-3 color	.34½	.35	.35	.36
150-3 color	.28½	.29	.28½	.29

PARAFFIN WAX (Fully Refined)

NEW YORK (prices per pound):				
120-122 a.m.p.	.0405	.0425	.0405	.0425
123-125 a.m.p.	.0435	.0455	.0435	.0455
125-127 a.m.p.	.0440	.0465	0440	.0465
128-130 a.m.p.	.04¾	.0490	.04¾	.0490
130-132 a.m.p.	.0495	.0505	.0495	.0505
133-135 a.m.p.	.0540	.0565	.0540	.0565
135-137 a.m.p.	.0565	.0590	.0565	.0590

Crude Oil Gravity Table

Gravity—	Oklahoma and Kansas 1	North Texas, Central Texas and East Central Texas 2	North Louisiana and Arkansas 3	Gray County, Texas 4	Carson, Hutchinson and Moore Counties, Texas 5	Conroe, Texas 6	Salt Creek, Wyo. 7	Gulf Coast, Texas and Louisiana 8	Gulf Coast, Texas and Louisiana 9	Cotton Valley, Louisiana 10
Below 20	....	....	....	....	....	....	....	$.82	$.82	....
20-20.9	....	....	....	....	....	....	....	.84	.84	....
21-21.9	....	....	....	....	....	....	....	.86	.86	....
22-22.9	....	....	....	....	....	....	....	.88	.88	....
23-23.9	....	....	....	....	....	....	....	.90	.90	....
24-24.9	....	....	....	....	....	....	....	.92	.92	....
Below 25	*$.76	....	....	....	....	....	....	....	....	$.70
25-25.9	*.78	....	....	....	....	....	....	.94	.94	.72
26-26.9	*.80	....	....	....	....	....	....	.96	.96	.74
27-27.9	*.82	....	....	....	....	....	....	.98	.98	.76
28-28.9	*.84	....	....	....	....	....	....	1.00	1.00	.78
Below 29	.84	$.79	$.79	....	....	....	$.84	....	....	....
29-29.9	.86	.81	.81	....	....	....	.86	1.02	1.02	.80
30-30.9	.88	.83	.83	....	....	....	.88	1.04	1.04	.82
31-31.9	.90	.85	.85	....	....	....	.90	1.06	1.06	.84
32-32.9	.92	.87	.87	....	....	....	.92	1.08	1.06	.86
33-33.9	.94	.89	.89	....	....	....	.94	1.10	1.07	.88
34-34.9	.96	.91	.91	....	....	....	.96	1.12	1.08	.90
Below 35	....	....	....	$.79	$.69	....	....	....	....	....
35-35.9	.98	.93	.93	.81	.71	$1.09	.98	1.12	1.09	.92
36-36.9	1.00	.95	.95	.83	.73	1.11	1.00	1.12	1.10	.94
37-37.9	1.02	.97	.97	.85	.75	1.13	1.02	1.12	1.11	.96
38-38.9	1.04	.99	.99	.87	.77	1.15	1.04	1.12	1.12	.98
39-39.9	1.06	1.01	1.01	.89	.79	1.17	1.06	1.12	1.13	1.00
40 and over	1.08	1.03	1.03	.91	.81	1.19	1.08	1.12	1.14	1.02

Effective December 3, 1934, Panhandle Refining Co., purchasing oil in North Texas, posted below 29 degrees, 68 cents; 29-29.9 degrees, 70 cents, with 2 cents added for each additional degree up to 40 and over, at 92 cents.

*The following companies purchasing crude oil in Kansas or Oklahoma, or both, begin their price schedule: Below 25°, 76 cents; 25-25.9°, 78 cents, with 2 cents added for each degree upward to 40 and over at $1.08; Carter Oil Co., Magnolia Petroleum Co., Pure Oil Co., Rock Island Refining Co., Shell Petroleum Corp., Sinclair Prairie Oil Marketing Co., Skelly Oil Co., and Wilcox Oil & Gas Co. All others begin their schedules at below 29°, 84 cents, excepting Philtex Oil Co., which begins with below 31° at 88 cents.

Column 1—Effective September 29, 1933, Texas Co. of Oklahoma; Stanolind Crude Oil Purchasing Co. in Kansas and Oklahoma; Anderson & Prichard, Inc., in Oklahoma; Bell Oil & Gas Co. in Oklahoma; Carter Oil Co. in Oklahoma and Kansas; Deep Rock Oil Co. in Oklahoma; Derby Oil Co. in Kansas; Globe Refining Co. in Oklahoma; Golden Rule Refining Co. in Kansas; Gypsy Oil Co. in Oklahoma and Kansas; Kanotex Refining Co. in Kansas; Magnolia Petroleum Co. in Oklahoma; Mid-Continent Petroleum Corp. in Oklahoma; National Refining Co. in Kansas and Oklahoma; Shell Petroleum Corp. in Kansas and Oklahoma; Sinclair Prairie Oil Marketing Co. in Kansas and Oklahoma; Texas Co. in Oklahoma; Tide Water Oil Co. in Oklahoma; Vickers Refining Co. in Kansas; Continental Oil Co. in Kansas and Oklahoma; Empire Pipe Line Co. in Oklahoma and Kansas; Philtex Oil Co. in Kansas and Oklahoma; Pure Oil Co. in Oklahoma; Skelly Oil Co. in Kansas. Effective September 29, by White Eagle Oil Corp. in Kansas; October 1, by Barnsdall Refineries, Inc., in Oklahoma.

Column 2—Effective September 29, 1933, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Bell Oil & Gas Co., Continental Oil Co. Effective January 14, 1935, in the Van Pool, Van Zandt County, Pure Oil Co. posted below 29°, 79 cents, with 2 cents added for each degree up to 40 and over at $1.03.

Column 3—Effective September 29, 1933, by Texas Co., Magnolia Petroleum Co., Gulf Refining Co. Effective December 22, Stanolind Oil & Gas Co. in Pine Island, Louisiana, and Marion County, Texas, posted below 29°, 79 cents, with 2 cents added for each degree up to 40 and over at $1.03. Effective March 17, 1934, by Standard Oil Co. of Louisiana and Louisiana Oil Refining Co. Starting with below 25°, 71 cents, adding 2 cents for each degree upward to 40 and over at $1.03.

Column 4—Effective September 29, 1933, by Texas Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Sinclair Prairie Oil Marketing Co., and H. F. Wilcox Oil & Gas Co. On same day, Philtex Oil Co. posted below 31°, 71 cents, with 2 cents added for each degree up to 40 and over at 91 cents. Effective June 1, 1934, Texas Co. (see note above).

Column 5—Effective September 29, 1933, by Texas Co., Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co., Continental Oil Co. On same day, Philtex Oil Co. posted below 31°, 61 cents, with 2 cents added for each degree upward to 40 and over at 81 cents. Effective June 1, 1934, Texas Co. (see note above).

Column 6—Effective September 29, 1933, by Humble Oil & Refining Co. and Tide Water Oil Co., and on September 30 by Texas Co., which on September 29 had posted a schedule of $1.07 to $1.13 with a 1-cent spread on each degree.

Column 7—Effective September 29, 1933, by Stanolind Oil & Gas Co.

Column 8—Effective September 29, 1933, by Humble Oil & Refining Co., Gulf Pipe Line Co., Shell Petroleum Corp., Pure Oil Co., Sinclair Prairie Oil Marketing Co. On October 2, Magnolia Petroleum Co. posted Lockport, Louisiana, 20-20.9°, 84 cents, with 2 cents added for each degree upward to 34 and over at $1.12; and in Cameron Meadows and Iowa, Louisiana, below 20°, 72 cents, with 2 cents added for each degree up to 34 and over at $1.02. These prices were 2 cents higher on each degree than Magnolia prices posted on September 29. Effective September 29, Shell Petroleum Corp. posted in Iowa, Louisiana, district: Below 20°, 70 cents, with 2 cents added for each degree upward to 34° and over at $1; and in Black Bayou and White Castle, Louisiana: Below 20°, 80 cents, with 2 cents added for each degree upward to 34° and over at $1.10.

Column 9—Effective September 30, 1933, Texas Co. (On September 29 Texas Co. has posted a schedule of 2 cents on each degree, but changed it on September 30.)

Column 10—Effective September 29, 1933, by Louisiana Oil Refining Co.

(California Crude Oil Prices on Page 30)

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas $1.09
Corsicana (heavy) (June 17, 1933)* ..... .86
Other fields ..... (See gravity table)

Note—In East Texas, effective September 29, 1933, by Texas Co., Sanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co., Empire Oil & Refining Co., and Atlas Pipe Line Co. posted 60 cents per barrel in East Texas, but on November 3 resumed its posted price of $1 per barrel, making it retroactive to October 22.

*Magnolia Petroleum Co.

West Texas

Crane, Upton, Crockett, Howard, Glasscock, Mitchell (Sept. 29, 1933) ..... $.70
Ector, Winkler and Pecos Counties and Lea County, New Mexico (Sept. 29, 1933) ..... .75
Pecos County, Yates shallow Pool (Sept. 29, 1933)* ..... .65
Jones and Fisher Counties*. See gravity table

Note—Effective September 29, 1933, by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas.

*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers.
..... (See gravity table)
Tomball (see note)* $1.15
Livingston (Sept. 29, 1933)† 1.00
Cleveland (Jan. 11, 1934) 1.00
Greta (Sept. 29, 1933) ..... .85
Refugio, light ..... (See gravity table)
Refugio, heavy (Sept. 29, 1933)‡ ..... .85
Markham and High Island .....
..... (See Gulf Coast gravity table)
Conroe ..... (See Conroe gravity table)
Bosco, La. (Oct. 15, 1934)§ $1.03

Note—Tomball, effective September 29, by Humble Oil & Refining Co. and October 3 by Magnolia Petroleum Co., and November 10 by Stanolind Crude Oil Purchasing Co.

*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy by Humble Oil & Refining Co. Cleveland (Liberty County) posted by Magnolia Petroleum Co. §Bosco posted by Pure Oil Co.

South Central and Southwest Texas

(See note below table)

Darst Creek ..... $.87
Mirando ..... .80
Luling (Sept. 29, 1933) 75
Pettus 1.05
Salt Flat ..... .87
Lytton Springs (Sept. 29, 1933) ..... .95
Duval County (Sept. 29, 1933) ..... .80
Saxet ..... .85

Note—Effective on September 29 by Humble Oil & Refining Co. in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective September 29 in Darst Creek by Gulf Pipe Line Co. and Texas Co. Effective October 2 by Magnolia Petroleum Co. Effective in Pettus and Salt Flat on September 29 by Humble Oil & Refining Co. and Gulf Pipe Line Co. Luling and Lytton Springs by Magnolia Petroleum Co. Duval County by Texas Co. Saxet, effective September 29, by

(Continued on Page 30)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

January 29, 1935

Taxes

The gasoline quotations given in the following tables include the 1-cent Federal tax, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank wagon or 3 cents a gallon off retail prices is permitted for purchases running between 4,000 and 10,000 gallons a month, or 4 cents a gallon off retail prices for purchase in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero-
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo.	18.0	20.0	5.0	13.6
Pueblo	18.0	20.0	5.0	13.0
Grand Junction	18.5	20.5	5.0	15.0
Casper, Wyo.	18.0	20.0	5.0	11.5
Cheyenne	18.0	20.0	5.0	13.0
Butte, Mont.	21.0	23.0	5.0	17.5
Billings	22.0	24.0	6.0	16.5
Helena	23.0	25.0	6.0	17.5
Great Falls	21.5	23.5	6.0	17.5
Salt Lake, Utah	21.0	23.0	5.0	16.0
Boise, Idaho	23.5	24.5	6.0	18.0
Twin Falls	23.5	24.5	6.0	18.0
Albu'que, N. M.	17.5	19.5	*6.5	13.0

*One-half cent city tax.

Effective March 1, 1934, discount to dealers with or without contract throughout Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 3½ cents.

Standard Oil Co. (Indiana)

	Gasoline			Kero-
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago	14.6	16.6	4.0	8.0
Decatur, Ill.	14.4	13.7	4.0	10.2
E. St. Louis	14.1	11.0	4.0	9.5
Joliet	14.5	16.5	4.0	10.2
Peoria	14.7	13.5	4.0	10.2
Quincy	15.9	14.9	4.0	10.0
Davenport, Ia.	14.2	14.0	4.0	10.1
Des Moines	14.1	16.1	4.0	10.1
Mason City	14.4	16.4	4.0	10 1
Sioux City	14.3	16.3	4.0	9.7
Duluth, Minn.	15.0	17.0	4.0	10.4
Mankato	14.7	16.7	4.0	9.5
Minneapolis	15.0	17.0	4.0	10.4
LaCrosse, Wis.	15.7	17.7	4.0	10.8
Green Bay	15.9	17.9	5.0	10.2
Milwaukee	15.8	17.8	5.0	9.0
Madison	16.0	18.0	5.0	9.9
Detroit, Mich.	15.0	17.0	4.0	10.5
Grand Rapids	14.7	16.7	4.0	10.2
Saginaw	15.0	17.0	4.0	10.5
Evansville, Ind.	16.3	14.9	5.0	10.0
Indianapolis	16.1	18.1	5.0	10.2
South Bend	16.4	18.4	5.0	9.0
Fargo, N. Dak.	15.7	17.7	4.0	11.4
Huron, S. Dak.	16.2	18.2	5.0	11 4
Sioux Falls	15.6	17.6	5.0	10.9
Kans. C., Mo.*	13.6	15.6	4.0	7.5
Springfield	13.3	15.3	4.0	8.3
St. Louis	14.2	16.3	3.5	8.7
St. Joseph*	13.6	15.6	4.0	7.8
Wichita, Kans.	13 2	15 2	4.0	7.5
Bartlesville, Ok.	15.7	18.2	5.0	8.5

*State tax 2 cents, 1-cent city tax and 1-cent federal tax.

Discounts to dealers: Undivided accounts, 3¼ cents on premium and regular and 2½ cents on third grade off service station prices; divided accounts one-half cent less than undivided. Where prices are more than 1 cent below normal, the discounts are one-half cent less than above.

Naphtha

	Tank wagon*
Oleum spirits	16.7
V.M.&P. naphtha	13.0
Cleaners' naphtha	13.0
Stanisol	13.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago, January 5, 1935. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Stanolax Furnace Oil in Chicago

Effective Jan. 2, 1935, f.o.b. Chicago tank wagon prices: Range oil, less than 80 gallons, 8¼ cents; 80-149 gallons, 7½ cents; 150 gallons and more, 7 cents. No. 1 (36-40 lt. stw. zero), less than 100 gallons, 8¼ cents; 100-149 gallons, 7¼ cents; 150 gallons or more, 6⅞ cents; No. 2 (30-34, stw. zero), less than 150 gallons, 7¾ cents; No. 3 (22-26, zero), less than 150 gallons, 7 cents; No. 4 (12-16 zero), less than 400 gallons, 7 cents; viscosity of No. 4, 35 at 100° F.; No. 5, less than 400 gallons, 5¾ cents. For deliveries of more than stated quantities of Nos. 2, 3, 4 and 5, deduct 1 cent.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline			Kero-
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga.	19.0	21.0	7.0	15.0
Augusta	18.0	19.0	7.0	15.0
Macon	19.0	21.0	7.0	15.0
Savannah	17.5	19.5	7.0	14.0
Birm'ham, Ala.	19.5	21.5	8.0	14.5
Mobile	17.0	18.0	8.0	13.0
Montgomery	18.5	19.5	8.0	15.5
Jackson, Miss.	18.5	20.5	7.0	13.0
Vicksburg	18.0	19.5	7.0	14.5
Jack'ville, Fla.	18.0	20.0	8.0	11.5
Miami	18.0	20.0	8.0	13.5
Pensacola	19.0	21.0	8.0	13.5
Tampa	18.0	20.0	8.0	12.5
Lexington, Ky.	15.5	17.5	6.0	11.5
Covington	14.5	15.5	6.0	12.5
Louisville	15.5	16.5	6.0	12.0
Paducah	14.5	15.5	6.0	13.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia and Mississippi include 1 cent state tax; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline; in Florida an inspection fee of one-eighth cent on kerosene and gasoline. To Pensacola, Mobile and Birmingham state taxes on gasoline add 1 cent city tax.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline			Kero-
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex.	12.0	14.0	5.0	7.0
Fort Worth	12.0	14.0	5.0	7.0
Houston	14.0	16.0	5.0	7.0
San Antonio	16.0	18.0	6.0	9.5
El Paso	18.0	20.0	5.0	10.0
Muskogee, Ok.	16.0	18.0	5.0	7.5
Okla. City	16.0	18.0	5.0	7.5
Tulsa	16.0	18.0	5.0	7.5
Ft. Smith, Ark.	14.1	16.5	5.0	9.0
Little Rock	16.6	19.0	7.5	9.0
Texarkana	14.0	16.0	5.0	7.0

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero-
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atl'tic City, N.J.	12.9	16.9	4.0	9.0
Newark	13.2	16.2	4.0	8.5
Annapolis, Md.	14.5	18.0	5.0	10.0
Baltimore	14.0	17.5	5.0	8.5
Cumberland	15.0	18.5	5.0	12.7
Wash'g'n, D. C.	12.0	15.5	3.0	11.5
Danville, Va.	16.5	20.0	6.0	12.9
Norfolk	15.0	18.5	6.0	11.3
Petersburg	15.5	19.0	6.0	11.4
Richmond	15.5	19.0	6.0	11.7
Roanoke	16 5	20.0	6.0	12.9
Charls'n, W.Va.	15.0	18.5	5.0	12.6
Parkersburg	14.5	18.0	5.0	11.2
Wheeling	14.0	17.5	5.0	12.2
Charlotte, N. C.	16.0	19.0	7.0	13.5
Hickory	16.5	19.5	7.0	13.7
Mt. Airy	17.0	20.0	7.0	13.8
Raleigh	16.5	19.5	7.0	13.3
Salisbury	16.5	19.0	7.0	13.6
Charleston, S.C.	15.2	18.7	7.0	11.3
Columbia	16.5	19.5	7.0	13.2
Spartanburg	17.4	20.9	7.0	13.5

Effective October 23, tank wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero-
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	15.9	17.9	5.0	10.0
McCook	16.6	16.9	5.0	10.7
Norfolk	16.3	18.3	6.0	10.4
North Platte	16.7	17.7	5.0	10.0
Scottsbluff	17.4	19.4	5.0	11.5

Note: Discounts to dealers; where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2½ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 3½ cents.

Where service station gasoline prices are below normal, resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 3 cents; Standard Red Corwn, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank wagon deliveries covered only by Standard Commercial Consumers Contract, effective Jan. 1, 1935.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero-
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.	14.5	17.5	‡8.0	9.0
Baton Rouge	15.2	18.7	†7.0	12.0
Alexandria	16.1	19.6	††8.0	10.0
Lafayette	16.2	19.8	‡*8.0	12.0
Lake Charles	16.2	19.7	††8.0	12.0
Shreveport	14.0	17.5	†7.0	12.0
Knoxville, Tenn.	18.7	22.2	8.0	13.5
Memphis	17.0	20.5	8.0	10.5
Chattanooga	18.0	21.0	8.0	11.0
Nashville	18.0	21.5	8.0	12.0
Bristol	17.0	20.5	8.0	14.0

*Includes city tax of 1 cent.

‡Includes 3-cent parish tax. †Includes 1-cent parish tax.

Effective October 23, tank wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at dealer price less one-half cent.

Louisiana kerosene prices include 1-cent state tax.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline			Kero-
	Tank wagon†	Posted retail	Incl'ds tax of	tank wagon
San Francisco	16.5	18.5	4.0	12.5
Los Angeles	15.5	17.5	4.0	12.5
Fresno, Calif.	17.0	19.0	4.0	14.0
Phoenix, Ariz.	20.0	22.0	6.0	‡16.0
Reno, Nev.	19.0	21.0	5.0	15.5
Portland, Ore.	19.0	21.0	6.0	13.5
Seattle, Wash.	19.0	21.0	6.0	13.5
Tacoma	19.0	21.0	6.0	13.5
Spokane	21 0	23 0	6.0	13.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

‡Includes 5-cent state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero-
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Phil'delphia, Pa.	14.0	16.0	4.0	9.0
Pittsburgh	15.0	17.0	4.0	10.0
Allentown	14.5	16.5	4.0	10.0
Erie	13.5	13.5	4.0	9.0
Scranton	15.0	17.0	4.0	10.0
Altoona	15.0	17.0	4.0	10.0
Dover, Del.	14.5	16.5	4.0	10.0
Wilmington	14.5	16.5	4.0	9.0
Springf'd, Mass.	13 5	17 0	4.0	8.5
Worcester	13.5	17.0	4.0	9 0
Hartford, Conn.	12 5	16 0	3 0	8.5
New Haven	12 5	16.0	3.0	8.5
Providence, R.I.	12.0	15.5	3.0	8.5

Note—Tank wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Canada*

Imperial 3-Star Gasoline

IMPERIAL OIL, LTD.

	Gasoline			Kero-
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Hamilton, Ont.	†22.0	25.0	6.0	17.5
Toronto, Ont.	†22.0	25.0	6.0	17.5
Brandon, Man.	30.3	33.3	7.0	21.3
Winnipeg, Man.	28.7	31.7	7.0	20.3
Regina, Sask.	29.0	32.0	6.0	21.5
Saskatoon, Sask.	31.5	34.5	6.0	24.3
Edmonton, Alta.	31.2	34.2	6.0	23.7
Calgary, Alta.	28.5	31.5	6.0	21.0
Vancouver, B.C.	27.0	30.0	7.0	24.0
Montreal, Que.	24.0	27.0	6.0	17.0
St. John, N.B.	26.0	30.0	8.0	19.5
Halifax, N. S.	26.0	30.0	8.0	19.5

*Imperial gallon used in Canada. †Governed by service station price.

Maritime provinces, all dealers 4 cents off service station price. All other provinces open dealers 3 cents per gallon off service station price (except Toronto and Hamilton cities which are—open dealers 2½ cents off service station price) 1 cent additional to 100 per cent accounts.

New York and New England

SOCONY-VACUUM CO., INC.

	Gasoline			Kero-
	Posted dealer	Service station	Incl'ds tax of	tank wagon
Albany, N. Y.	13.5	17.0	4.0	8.5
Met. New York	13.0	16.5	4.0	8.75
Br'klyn, Queens	13.0	16.5	4.0	8.5
Buffalo	9.0	11.5	4.0	8.0
Rochester	9.5	12.0	4.0	8.0
Syracuse	13.5	17.0	4.0	8.75
Boston, Mass.	13.0	16.5	4.0	8.5
Portland, Me.	15.0	18.5	5.0	8.75
Manch't'r, N.H.	15.0	18.5	5.0	9.0
Burlington, Vt.	16.5	20.0	5.0	9.0

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero-
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points	15.5	17.5	5.0	*12.5

*Includes state tax of 1 cent, effective July 22.

Retail Price Changes

Regular-Grade Gasoline and Kerosene

RETAIL PRICE CHANGES

Standard Oil Co. of California, January 24, reduced tank wagon and station gasoline 1 cent in Spokane.

Standard Oil Co. of Louisiana, January 15, reduced station gasoline one-half cent in Chattanooga; reduced tank wagon kerosene 2 cents in Alexandria.

Atlantic Refining Co., January 21, advanced tank wagon and station gasoline one-half cent in Springfield, Worcester, Hartford, New Haven and Providence.

Socony-Vacuum Oil Co., Inc., January 18, reduced tank wagon and station gasoline 1½ cents in Buffalo. January 21, reduced tank wagon gasoline 4 cents and station gasoline 5 cents in Rochester; advanced tank wagon gasoline 2½ cents and station gasoline 4 cents in Manchester.

Magnolia Petroleum Co., January 24, reduced tank wagon kerosene 2 cents in El Paso.

Standard Oil Co. of New Jersey, January 28, advanced station gasoline one-half cent in Atlantic City and Newark.

U. S. Jenkins, Veteran Technologist, Passes On

Ulysses S. Jenkins, vice president and director of the Jenkins Petroleum Process Co. of Chicago passed away at his home in Park Ridge, Ill., Sunday, January 27. Funeral services were held from the Community Church of Park Ridge on Wednesday. Interment was in Montrose Cemetery, Chicago.

Mr. Jenkins was born in New Albany, Ind., in 1864. He came to Chicago in 1884, and with the exception of a period of some years of residence in St. Louis, resided in Chicago since that time. Two years ago he moved to Park Ridge, Ill.

He was for many years associated with the Grand Trunk Railway and the Central Traffic Association. He later organized and managed the Superior Chemical & Engineering Co., which was engaged in the manufacture of boiler compounds and other chemicals. During the war he was fuel administrator for the states of Wisconsin and Minnesota.

Although actively interested in distillation and steam boiler practice from his early teens, Mr. Jenkins did not actively enter the petroleum field until 1916, when he was instrumental in the organization of the Jenkins Petroleum Process Co. for the purpose of sponsoring his inventions in the cracking of heavy oils to produce gasoline. The development of his ideas over an extended period of experimentation gave the art the well known "Jenkins Cracking Process." This process came into extensive use in this country and abroad.

Mr. Jenkins was very active in the affairs of his company until last October, when rapidly failing health forced him to remain at his home.

NEWS FOR SALES DEPARTMENTS

Supplier of Products Responsible for Labor

A formal conference to consider the legal aspects of the Petroleum Labor Policy Board's proposed definition of the word "employe" as applied to the marketing branch of the industry was held during the week. Much opposition has arisen to the terms of the definition proposed, and the Petroleum Administration thought it best, in the interest of harmony, to call for legal opinions on the subject from attorneys in the industry. Louis Titus, general counsel for the Planning and Coordination Committee, presented a very comprehensive brief for the industry which maintains the position taken by practically everyone who has studied the proposed definition that it is illegal.

The board's proposal states "Specifically, and without limitation, of the general definition the operator of a service or filling station and his helpers are the employes of the supplying oil company when such company owns or holds such station under lease and such company leases or subleases such station to the operator on a lease and sales contract or any arrangement which insures the exclusive sale of the gasoline of such company at the station under such operating conditions as the supplying company may impose, irrespective of whether this result is accomplished by the express terms of the contract, or under its operation by virtue of powers of cancellation or forfeiture or otherwise." The purpose of Mr. Titus' brief was to show that the definition violates, in material respects the legal definition of the term "employe."

In this connection he cited numerous cases in which the courts have held that "a master is one who stands to another in such a relation that he not only controls the results of the work of that other, but also may direct the manner in which such work shall be done. A servant is one who is employed to render personal services to his employer otherwise than in the pursuit of an independent calling, and who in such service remains entirely under the control and direction of the latter. . . . The relation of master and servant exists where the employer has the right to select the employe; the power to remove and discharge him, and the right to direct both what work shall be done, and the way and manner in which it shall be done."

The foregoing definition of an employe, an employer, and the master and servant relationship was upheld by Mr. Titus in his brief, as well as by other witnesses who appeared in behalf of the industry.

TIDE WATER EXPANDS

An extension in the distribution system of the Tide Water Oil Co. took place when that company purchased the facilities of the Universal Gas & Oil Co. of Easton, Pa. Universal has been distributing petroleum products in Pennsylvania since 1931, serving dealers and operating its own service stations. The property is concentrated largely in Northampton and Lehigh Counties.

SPEEDY TANKERS PLANNED

Plans are being advanced by the Navy Department to unite with major oil companies in the building of a minimum of 33 18-knot tankers for commercial use, but available as naval war auxiliaries. These tankers will be built in American yards according to George A. Armes, president of the Los Angeles Shipbuilding and Drydock Corp.

Armes said that the proposal is that the tankers' construction would be government-financed in such manner as to absorb their operating differential above the running cost of existing slow American oil carriers, of 9 to 12 knot speeds.

Navy leaders explain that not one existing American-flag tanker is able to maintain sea speed of 16 knots, which would seriously hamper the fleet in the event of transoceanic war operations.

CONTROLLED MARKETING

HALIFAX, Nova Scotia, Jan. 26.—Effects of the Gasoline Licensing Act passed in 1934 by the Nova Scotia provincial legislature are being studied by other provinces in Canada. The act provided for control by the province of vendors retailing gasoline, with a view to eliminating needless and wasteful competition and securing reduced prices to consumers.

The Nova Scotia Board of Public Utilities has issued 1,000 retail gasoline vendors' licenses for 1935, comparing with 1,700 licenses existing a year earlier to operate 4,000 pumps. It is claimed that because, prior to 1934, two-thirds of the licenses sold on the average less than 3,500 gallons a year and many under 1,000 gallons, the retailing of gasoline was unprofitable for the average vendor, on a spread of four cents a gallon, especially after deducting expenses of selling and losses from shrinkage, evaporation and wastage.

Motorists in California Paid Close to 40 Million

SACRAMENTO, Calif., Jan. 26.—California gasoline taxes for 1934 amounted to $39,625,055.32, marking an increase of $317,702.33 over the corresponding figure for 1933. This is a gain of 8 per cent as contrasted with a loss of 19 per cent in 1933, when the total taxes from this source were $39,307,352.99, or $763,985.88 less than in 1932.

December assessments just completed by the State Board have added $3,324,018.29 to the motor vehicle fuel sales previously taxed during the past year. As compared with similar taxes for the last month of 1933, these reveal a gain of $456,494.06, or 1½ per cent.

Analyzing trends of the gasoline tax, the Equalization Board states that the highest collections for any calendar year were made in 1931 when they reached a total of $41,625,893.24. In each subsequent year collections from the 3 cents per gallon tax have steadily declined until the year just closed, although in individual months gains have been shown from time to time.

Not all the fuel tax assessed is available for road purposes, the board points out in its comment. Refunds made by the state controller on account of nonhighway uses absorb approximately 10 per cent of the tax, so that less than $36,000,000 out of the total collected for 1934 will be available for road work. Expenses of administration take only a small fraction of the proceeds, leaving an average of approximately $3,000,000 per month for highway expenditures.

Oil companies reporting sales of more than 1,000,000 gallons of gasoline for December have been listed by the board. Resale of motor vehicle fuel already taxed to some other company, and exempt transactions in interstate or foreign commerce are said to account for differences between total sales and taxable sales announced as follows:

DECEMBER SALES IN CALIFORNIA

Name—	Gallons actually sold	Net taxable gallonage
Associated Oil	16,233,411	9,586,297
Bush, R. R.	1,066,496	1,070,273
Caminol, Ltd.	2,112,651	2,121,370
General Petroleum	9,487,310	9,291,336
Macmillan	2,168,786	2,190,166
Western Oil	1,828,444	1,841,269
Hancock Oil	3,361,312	3,117,510
Richfield	10,417,888	8,470,659.7
Mohawk	1,786,380	1,461,279
Norwalk	1,922,591	956,149
Olympic	1,155,832.5	1,130,321.2
Petrol	1,208,816	1,206,094
Rio Grande	3,329,211.5	2,797,944
Sunset Pacific	2,357,768	1,407,741
Seaside	2,182,452	1,176,552
Shell Oil	19,165,648	11,017,050
Standard Oil	48,336,890	21,841,389.3
St. Helens	1,090,981.2	991,082.8
Texas Co.	5,993,917.7	4,760,454.2
Union Oil	19,170,250	10,160,361.5
Wilshire	5,139,209	5,190,274.7

Socony-Vacuum Launches New Ocean Going Tanker

NEW YORK, Jan. 28.—The marine department of the Socony-Vacuum Oil Co., Inc., has launched the "Socony-Vacuum," a new 500-foot tanker built at the Camden, N. J., shipyards of the New York Shipbuilding Co. The tanker is an ocean going vessel and a sister ship "Magnolia," will be launched within the next few weeks.

The new vessel is the fifth to be completed within the past year in a construction program totaling several million dollars. It cost $2,000,000. The four vessels completed earlier are of smaller capacity and are being used for transportation of products in inland waterways and coastwise movements. The "Socony-Vacuum" was launched by Mrs. J. J. Maguire, wife of the head of the marine department.

The tanker has a capacity of 5,300,000 gallons with a beam of 65 feet, 9 inches, depth of 37 feet and a total deadweight of 15,285 tons on a draft of 29 feet 10 inches. It has 10 main double tanks and 6 summer tanks on each side and is propelled by double reduction geared turbines at an estimated speed of 12½ knots.

The Socony-Vacuum company's tanker construction program has been the most ambitious of any oil company over the past year. Officials announced that old tankers with obsolete equipment would be retired from service to offset the capacity made available by the new tankers. The company's fleet of tankers now has a total capacity of approximately 800,000 tons.

RUSSIAN OIL DUTY FREE

A recent decision of the U. S. Court of Customs and Patent Appeals in Washington has declared Russian paraffin oils to be free of duty, thereby reversing a decision of last year of the New York Customs Court, which had upheld a ruling of the Treasury Department of February, 1932.

This ruling had reclassified Russian medicinal oils from the tariff free list, paragraph 1,733 (paraffin oil, distillates of petroleum) to paragraph 5 of the dutiable list (all medicinal preparations), providing 25 per cent ad valorem duty.

H. B. FAIRCHILD » » »

H. B. FAIRCHILD, general sales manager, entered the employ of the Standard Oil Company of California December 1, 1913, as a warehouseman at San Francisco, in which capacity he was employed until the end of January, 1914, when he was assigned to the position of clerk in the lubricating oil division at the home office. Three months later, Mr. Fairchild was transferred to laboratory work in the fuel oil department where he worked until July 1, 1914, at which time he was appointed to the position of fuel oil salesman in the San Francisco district. On March 1, 1915, he was transferred back to the fuel oil department at the home office, and appointed to the position of inter-agency fuel oil salesman covering the entire Pacific Coast, including the Hawaiian Islands. During the period covered by the United States' participation in the World War, Mr. Fairchild served as assistant director of the Fuel Oil Administration for the Pacific Coast. On January 16, 1919, he was appointed special agent for the company at Marshfield, Ore., having charge of the company's sales plant and activities at that point.

One year later, he was appointed assistant district sales manager at Stockton, Calif., which position he held until November, 1920, when he was transferred in the same capacity to Portland, Ore. Three years later, Mr. Fairchild was appointed district sales manager in the Sacramento district and remained there until January, 1931, when he was appointed assistant general sales manager at the home office. One year later, on January 31, 1932, he was appointed general sales manager and chairman of the sales committee, having charge of the company's marketing activities throughout its domestic area, which position he now holds.

NEWS FOR PETROLEUM REFINERS

Saskatchewan Refiners to Use Montana Crude

The increased freight rate on crude oil from the Mid-Continent Fields to Saskatchewan refineries has turned the attention of the latter to Montana crude, on which the rate is approximately 25 cents a barrel less. Independent refinery representatives from Saskatchewan have been in the Cut Bank Field seeking to contract crude for their plants.

The British-American Oil Co. has a new 300-bbl. cracking plant operating at Moose Jaw, Saskatchewan. This company has its own production in Texas and has crude contracts in the Cut Bank Field, with its own pipe line from Cut Bank to the international boundary. Another independent is the Highway Refineries organization which has acquired a number of small local plants in Saskatchewan and is reported preparing to build others.

R. E. HAYLETT CHAIRMAN

R. E. Haylett, director of research for the Union Oil Co., Los Angeles, has been appointed chairman of the American Petroleum Institute's Central Committee on Refinery Technology for 1935, according to W. G. Skelly, chairman of the General Committee of the Division of Refining. R. P. Anderson has been reappointed secretary.

Other members of the committee include: D. G. Brandt, Henry L. Doherty & Co., New York; H. W. Camp, Empire Oil & Refining Co., Tulsa; T. G. Delbridge, Atlantic Refining Co., Philadelphia; R. A. Halloran, Standard Oil Co. of California, San Francisco; E. W. Isom, Sinclair Refining Co., New York; Emby Kaye, Skelly Oil Co., Tulsa; E. R. Lederer, Texas Pacific Coal and Oil Co., Fort Worth and N. E. Loomis, Standard Oil Co. of New Jersey, New York.

CANADIAN OIL IMPORTS

OTTAWA, Canada, Jan. 26.—Petroleum, asphalt and their products imported into Canada in November, 1934, were valued at $4,461,153, an increase of 11.6 per cent over the October import valuation of $3,998,752. The major contributors to the November imports, with percentages, were: United States, 75.4; Colombia, 10; Peru, 8.4; Venezuela, 3.8 and Trinidad, 1.7.

Imports of crude petroleum in its natural state in November increased to 124,044,284 gallons compared with October figures of 110,637,902 gallons. The sources were: United States, 88,304,278 gallons; Colombia, 15,556,340 gallons; Venezuela, 10,526,709 gallons; Peru, 7,008,672 gallons, and Trinidad, 2,648,285 gallons.

Canada exported petroleum and petroleum products to a value of $32,144 in November compared with an October valuation of $16,090.

BOARD OF REVIEW TO MEET

The Planning and Coordination Committee announces that the Board of Review will convene for its next regular monthly session at 10:00 a.m., Wednesday, February 6, 1935, for the purpose of hearing appeals from February gasoline production quotas fixed by the District Allocating Authorities.

FIRE AND SAFETY MARSHALS

The annual meeting of the fire and safety marshals will be held at Oil City, Pa., in June. As part of the program, the committee has planned to include discussions of the papers given at the semiannual meeting which was held at Bradford, Pa., January 8.

Wilshire Oil Will Build New Refinery and Dubbs Cracking Unit in California

LOS ANGELES, Calif., Jan. 28.—The Wilshire Oil Co., one of the largest independent marketers in California, has definitely decided to enlarge its refining facilities, and construction work is scheduled to get under way within the next six weeks. Wilshire has been contemplating this work for more than a year but has postponed action from time to time. Contracts were signed a few days with the Universal Oil Products Co., owner and licensor of Dubbs Cracking Process, and announcement made of the company's plan to proceed with construction work at an early date. Construction contracts have not yet been awarded but bids will be received within the next few weeks.

Wilshire's projected work calls for installation of a Dubbs cracking unit and a new refinery to be erected on the company's 250-acre tank farm at Santa Fe Springs. The cracking unit will have a daily capacity of 7,800 bbls. and the distillation unit 12,500 bbls. The Wilshire company has two refineries in California at the present time, one at Vernon and another at Fellows in Kern County. The Vernon plant has a capacity of 20,000 bbls. per day and is of the skimming type. The plant at Fellows, which is a small installation, has a rated capacity of 2,500 bbls. per day but has been shut down for several years.

Changes Planned

Officials of the Wilshire Oil Co. have not definitely decided just how much work will be undertaken at the present time as much depends upon the cost of projected construction. It has been decided, however, that the new distillation unit and the cracking plant will be constructed as planned irrespective as to the outcome of other anticipated changes. Preliminary plans called for the dismantling of the Vernon plant and removal of equipment to Santa Fe Springs upon completion of the new plant, but this phase may be delayed until a later date. As has been said, officials are still a little undecided as to the scope of work to be undertaken.

In addition to the actual distillation unit and cracking plant, the Wilshire company will be obliged to construct an entirely new series of treating and processing tanks and other necessary equipment as there is none of this on the property at the present time. It is quite likely, however, that there may be a surplus of some of the necessary equipment at the Vernon refinery which can be used to advantage in the new plant to be erected at Santa Fe Springs. The Vernon plant has been in operation for a number of years and consequently does not measure up to present standards although the company has marketed a good grade of gasoline.

Improved Location

The site selected at Santa Fe Springs is far more suitable for the location of a new refinery than the Wilshire company's present plant at Vernon because it is nearer the company's source of crude oil supply and tank farm which holds much of the oil to be refined. The new location will eliminate the necessity of pumping the oil from the tank farm to Vernon, a distance of about 15 miles, and is at the same time more centrally located with respect to production. Wilshire produces about 10,000 bbls. of crude oil per day from company operated properties in the Santa Fe Springs and Huntington Beach fields, both of which are nearer the new location. The company has scattered production in two other fields but this is relatively small.

The Santa Fe Springs tank farm where the new refinery will be built was finished several years ago and is ideally suited for general distribution as it is in the center of an area around which good markets radiate in all directions. The Vernon plant, due to its location in a congested district, is not very satisfactory as gasoline trucks in making deliveries have to buck city traffic in getting in and out of the area. From Santa Fe Springs, the company will be able to make deliveries by truck to many districts where heretofore it has been obliged to use railroad transportation. This will obviously result in lower operating costs and more satisfactory control of supplies.

Existing Equipment

The tank farm at Santa Fe Springs, including facilities at Norwalk, comprise 12 tanks with a capacity of 170,000 bbls. each and an aggregate for this size of 2,040,000 bbls.; 35 tanks with a capacity of 134,000 bbls. which total 4,690,000 bbls. and three tanks holding 80,000 bbls. each or a total of 240,000 bbls. Total storage facilities at this farm total 6,970,000 bbls. At the Vernon refinery Wilshire has, in addition to usual run-down and treating tanks, 10 tanks holding 80,000 bbls. each or a total of 800,000 bbls. This gives the company a total storage capacity of 7,770,000 bbls. The present total will be augmented by several more tanks at Santa Fe Springs as the company must make some additional provision to store gasoline as soon as the new plant gets into operation.

The Wilshire Oil Co. has approximately 2,000,000 bbls. of crude oil in storage and about 400,000 bbls. of finished gasoline. In addition the company has about 2,500,000 bbls. of fuel oil which can be cracked upon completion of the Dubbs units. As a further reserve, Wilshire has

(Continued on Page 116)

1934 RECORD DEMAND

Preliminary estimates of domestic motor fuel consumption indicate that a new record was established in 1934. The December consumption figures are not available but estimates have been made by the Bureau of Mines suggesting a total of 30,580,000 bbls. consumed for the month. This represents an increase over the same month for the previous year of 6.2 per cent.

In 1931, the peak year, a total of 403,418,000 bbls. of motor fuel were consumed in the United States. Using the estimated figure for December the consumption for 1934 will approximate 406,332,000 bbls. or will exceed the peak by about 3,000,000 bbls. On this basis 1934 will show an increase of about .7 per cent over the former peak year.

Although a new high for domestic demand was established, the exports remained relatively low for the year and the total demand fell approximately 29,000,000 bbls. short of the total for the year 1930 when an all-time high was established.

CANADIAN GASOLINE SALES

OTTAWA, Canada, Jan. 26.—Sales of gasoline rose in all six provinces of Canada during October to total 25,472,000 gallons, a monthly increase of 19 per cent.

NRA Announces Policy on Advertising Allowances

When code restrictions on advertising allowances are proposed the provisions may limit such allowances to payment for definite and specific advertising or promotion services, and may prohibit any price reduction, discount, bonus or rebate being designated an advertising allowance, according to NRA policy on this subject announced by the National Industrial Recovery Board.

According to the announced policy, it may be provided that agreements to purchase advertising services from customers must be in written contracts separate from sales contracts. Such contracts must "specifically and completely set out the promotion services to be performed, together with the precise consideration to be paid therefor, the method of determining performance, and all other terms and conditions related thereto."

Arrangements for publicity may be made, the poicy specifies, in cases where "effective machinery therefor can be devised." Such arrangements should not be "so cumbersome that its cost will outweigh benefits to be gained."

The announcement of the new policy recognizes that "code provisions declaring the giving of advertising allowances an unfair practice would not change the basic fact that sellers must price their goods to buyers and that certain buyers have promotion services which they are desirous of selling for which those who sell to them are willing to pay."

"The remedy for such suspicion, secrecy, confusion, and misrepresentation as may be connected with advertising allowances," the Board's statement continues, "lies in ** clearly separating *** the two activities *** involved in giving advertising allowances, *** causing that part of the advertising allowance which is actually a price reduction to appear in prices *** causing that part *** which is actually a payment for advertising or promotion service to appear as such with definite description of the service for which it is given, and with such publicity *** that it is unlikely that the payment will be more than the competitive worth of the services involved."

The Board approved a draft of suggested code provisions conforming with the new policy, both regarding adverising allowances and dealing with publicizing such allowances. The following was suggested for use in codes in which it is

(Continued on Page 116)

High Octane Fuels Aid in Aviation Developments

Rapid developments in aviation fuels are to be expected in 1935, according to Maj. E. B. Aldrin, chairman of the fuel and lubrication committee of the Aeronautical Chamber of Commerce and vice president of the Stanavo Specification Board. Major Aldrin contributes the great advances made in the past year to the refinements made by airplane and engine designers and refiners in bringing about the high-compression, high-output engines. He adds:

"The oil refiners have contributed a major share in making such developments possible. It is believed that by the end of 1935 fuels closely approaching the knock-suppressing quality of pure iso-octanes, or 100 octane number, will be a commercial possibility. Translated in terms of engine power, this means that the 550-horsepower engine of 1933 will appear in 1936 with a rating close to 1,000 horsepower."

A down-at-heel plant loses money

● There are industrial plants today tottering unsteadily on run-over heels. Production is halting, costs are excessive. It's time for a trip to the cobbler.

To the executive who is responsible for the continued health of a business enterprise, the plant engineer's requests for replacements grow, of their own accord, into imperative demands. In too many plants the fine balance between economic retrenchment and plant impairment has been lost. To save a dollar too often means to lose a thousand. It's time to check up!

A large clothing factory increased daily cloth production 30% by installing Crane steam traps to maintain proper temperature of machines without fluctuation. In other plants—in your plant—there may be new and modern equipment unable to earn its way because of inadequate piping, worn valves, or leaky fittings.

Ask your engineer for a report on your plant. Crane engineers will gladly cooperate with your consultants to the end of detecting loss and waste, and recommending the least costly means of rehabilitation. We will send you, without obligation, our plant check list. Write for it today!

CRANE

CRANE CO., GENERAL OFFICES: 836 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS • NEW YORK: 23 WEST 44TH STREET

Branches and Sales Offices in One Hundred and Sixty Cities

VALVES, FITTINGS, FABRICATED PIPE, PUMPS, HEATING AND PLUMBING MATERIAL

Factors in Chicago Wholesale Market About Balancing; Jobbers Cautious

By SPECIAL CORRESPONDENT

CHICAGO, Jan. 28.—Oil market activity here continues quiet, in recognition of the reduced gasoline demand and that factors in the wholesale market appear to be about balancing. Jobbers are extremely wary and the spot market activity has dwindled to a low ebb. Refiner buying has contributed most of the activity recently.

Jobbers and tank car gasoline buyers generally have been inclined to sit back and limit their acquisition of new supplies to their contracts. Contract signing has been rather extensive in the past few weeks. One of the things contributing to this condition has been the fact that the tank wagon and service station gasoline markets have quieted down and tended to stabilize on an extremely extensive scale over the past six weeks' period. All indications are that retail gasoline market is in or close to that desirable condition known as approximate stabilization. Under these conditions, even with gallonage seasonally reduced and at probably the year's low level, the net monetary returns to the trade apparently are making a good comparison with the situation in the late autumn when conditions were demoralized.

Perfecting Plans

Oil marketing companies, large and small, are taking advantage of the slack season in actual demand to perfect their plans for the coming gasoline season. The consensus appears to be that there will be an exceptionally good demand for regular grade gasoline in relation to the third grade gasoline demand. Some reports now current are that certain outstanding major companies in the Middle West are planning to discontinue third grade gasoline.

Investigation recently has brought out numerous indications that East Texas is much quieter as a potential supplier of gasoline to the middle western trade than was generally expected. There have been some spotty and scattered offers of material and these have attracted a little more attention than ordinarily would be accorded the offering of similar limited amounts under normal market conditions—but as a whole, East Texas is playing a much smaller part in this market than it appeared likely.

Kerosene

With a good domestic demand for kerosene believed to be not far away, there is now more interest in the various grades of the product. Prices on kerosene have been advanced fractionally by some sellers in the last few days. Supplies do not seem overly large. In fact, kerosene has been the outstanding strong spot of the whole tank car market situation recently.

Some Nervousness

However, the trade appears to realize that with conditions as they are there is much possibility of an outpouring of gasoline from East Texas, and this is one reason for nervousness displayed in some quarters. It also is the reason why there is understood to be a cushion of buying support just below present tank car prices in the form of major companies. The latter are interested in the maintenance of a comparatively firm tank wagon and service station market into the spring and summer, so that the expanding business will be accompanied by comparable earnings returns. Jobbers certainly are not speculating in the market despite the fact that they now are placed in relatively easier pricing conditions in their home markets than in months.

Heating Oils

Extremely low temperatures over a large section of the country have created a good demand for the better grades of

(Continued on Page 116)

Crude Oil Prices

(Continued from Page 25)

Humble Oil & Refining Co. and Texas Co. Effective September 20 in Salt Flat by Shell Petroleum Corp.

Rocky Mountain States

Ilea, light (Sept. 29, 1933)	$.96
Ilea, heavy (Sept. 29, 1933)	.90
Florence, Colo. (June 17, 1933)	.80
Fort Collins and Wellington, Colo. (June 17)	(See Salt Creek prices)
Big Muddy (Sept. 29, 1933)	1.01
Frannie, light (May 1, 1934)	.70
Frannie, heavy (Sept. 29, 1933)	.62
Salt Creek and LaBarge (Sept. 29, 1933)	See Stanolind Mid-Continent price schedule
Grass Creek, light (Sept. 29, 1933)	1.18
Grass Creek, heavy (Sept. 29, 1933)	.62
Elk Basin (Sept. 29, 1933)	1.18
Rock Creek (Sept. 29, 1933)	1.02
Lance Creek (Dec. 16, 1932)	.92
Hudson (June 2, 1931)	.65
Lost Soldier (Sept. 30, 1933)	.88
Hamilton Dome:	
Below 18° (July 1, 1934)	.62
18° and above (July 1, 1934)	.62
Torchlight (Sept. 29, 1933)	1.18
Greybull (Sept. 29, 1933)	1.18
Pondera (Sept. 29, 1933)	1.25
Sunburst (Sept. 29, 1933)	1.35
Cat Creek, Montana	1.07
Hogback (Sept. 29, 1933)	1.11
Lea County, N. Mex. (Sept. 29, 1933)	.75
Maljamar (Sept. 29, 1933)	.70
Artesia-Jackson (Dec. 1, 1933)*	.75

Note—Salt Creek, Torchlight, Elk Basin, Grass Creek, Frannie, Greybull, Hogback and Ilea by Stanolind Oil & Gas Co. Elk Basin, Grass Creek light, Big Muddy, Rock Creek and Sunburst by Ohio Oil Co. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective September 29, 1933, by Humble Oil & Refining Co. and other buyers; Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro. Hamilton Dome, Wyo., by Stanolind Oil & Gas Co. Pondera, Mont., by Ohio Oil Co. (Stanolind Oil & Gas Co., effective January 1, 1935, posted $1 per barrel in Pondera.)

*Continental Oil Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades)	$.70
Tullos, Urania, La. (Jan. 13, 1934)	.87
Nevada, Ark. (Sept. 29, 1933)	.60
East El Dorado (Sept. 29, 1933)	.70
Converse, La. (Mar. 17, 1934)	1.03
Elm Grove, La. (Sept. 29, 1933)	.75
Holly, La. (Nov. 17, 1934)	1.03
Pleasant Hill, La. (Mar. 17, 1934)	1.03
Zwolle, La. (Mar. 17, 1934)	1.03
Champagnolle, Ark. (Mar. 17, 1934)	.81
Lisbon, Ark. (Mar. 17, 1934)	1.03
Stephens, Ark. (Sept. 29, 1933)	.70
Urbana, Ark. (Mar. 17, 1934)	.60
Other fields	(See gravity table)

Note—Smackover: Effective September 29, 1933, Texas Co., Magnolia Petroleum Co., Standard of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co. and Phillips Petroleum Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co., Nevada by Standard Oil Co. of Louisiana. Urbana posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co. Converse, Holly, Zwolle and Urbana by Standard Oil Co. of Louisiana; Elm Grove by Simmons Oil & Refining Co.; Pleasant Hill by Standard Oil Co. and Magnolia Petroleum Co. Champagnolle by Standard Oil Co. and Lion Oil & Refining Co.

Eastern States

TIDE WATER PIPE CO.
(Effective Jan. 4, 1935)

Bradford, Pa.	$2.30
Allegany, N. Y.	2.30

SOUTH PENN OIL CO.
(Effective Jan. 4, 1935)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$2.30
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.87
Pennsylvania Grade Oil in Eureka Pipe Line lines	1.83
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.73
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Oct. 2, 1933)	1.37

PENNZOIL CO.
(Effective Jan. 4, 1935)

Pennsylvania Grade Oil in National Transit Lines:	
Group A (Includes Cochran, Franklin, Hamilton and Doolittle districts.)	$2.12
Group B (Includes Titusville district.)	2.11
Group C (Includes Turkey and Tidioute districts.)	2.10
Group D (Includes Bear Creek and Porkey districts.)	2.09
Group E (Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emienton, Tions, Lacey and Kinzua districts. Price depends on length of pipe line haul to plant at Oil City.	2.06

PURE OIL CO.
(Effective Jan. 4, 1935)

Cabin Creek, W. Va.	$1.82
Bradford Hollow, W. Va.	1.82
Kelly Creek, W. Va.	1.77

CREW-LEVICK CO.
(Effective Jan. 4, 1935)

Oil City-Titusville	2.11

Middle Western States

OHIO OIL CO.
(Effective September 29, 1933)

Lima	$1.30
Illinois (Jan. 5, 1934)	1.13
Princeton, Ind. (Jan. 5, 1934)	1.13
Plymouth	Shut in
Western Kentucky (May 26, 1934)	1.03
Midland, Mich. (Sept. 30, 1933)*	1.09
West Branch, Mich.	.80
Oceana, Mich. (Oct. 5, 1933)	.90
Somerset, Ky. (Sept. 30, 1933)	1.13

*Posted by Pure Oil Co. and Simrall Pipe Line Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted prices. West Branch, Mich., posted by Simrall Pipe Line Co. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted price includes premium. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

Canada

Ontario (September 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (May 21, 1934):†	
Clear naphtha	$2.65
Discolored naphtha	2.37
Crude oil, 50 gravity	2.19
Crude oil, 45 to 49.9	2.07
Crude oil, 40 to 44.9	1.90

*Imperial Oil, Ltd. †Imperial Oil, Ltd and Regal Oil & Refining Co.

Mexico

Panuco*	$1.00

*F.o.b. ship, based on November transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective September 6, 1933)

For current purchases of crude oil at the well (unless otherwise specified). (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier, La Habra	Montebello	Santa Fe Springs	La Habra-Coyote	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	....	$ 65	$.65	$.65	$.65	....	$.65	$.57	$.57	$.57	$ 65
15-15.9	.65	.65	.69	.69	.66	.69	....	.66	.66	.65	.65	....	.65	....	....	....	.65
16-16.9	.66	.65	.72	.73	.69	.73	....	.69	.67	.68	.65	....	.65	....	....	....	.65
17-17.9	.69	.65	.75	.76	.73	.76	....	.72	.70	.71	.65	....	.68	....	....	....	.68
18-18.9	.72	.65	.78	.80	.76	.79	....	.75	.74	.74	.65	....	.71	.61	.61	.59	.71
19-19.9	.75	.65	.81	.83	.80	.82	....	.78	.78	.78	.65	....	.74	.64	.65	.62	.74
20-20.9	.78	.68	.83	.87	.83	.85	....	.81	.82	.81	.66	....	.78	.67	.69	.65	.78
21-21.9	.81	.72	.86	.90	.87	.88	....	.83	.85	.84	.69	$.72	.81	.70	.73	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	....	.85	.89	.87	.72	.76	.84	.72	.76	.72	.84
23-23.9	.88	.81	.92	.97	.94	.95	$.83	.89	.92	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.86	.95	1.01	.97	.98	.86	.92	.97	.93	.80	.83	.90	.81	.82	.78	.90
25-25.9	.94	.89	.98	....	1.00	1.01	.90	.95	1.00	....	.85	.87	.93	.85	.85	.81	.93
26-26.9	.97	.93	1.01	....	1.04	1.04	.94	.98	1.04	....	.89	.90	.96	.89	.88	....	.96
27-27.9	1.00	.98	1.04	....	....	1.07	.97	....	1.08	....	....	.94	.99	.93	.91	....	.99
28-28.9	1.03	1.02	1.07	....	....	1.10	1.01	....	1.11	....	....	.98	1.02	.97	.94	....	1.02
29-29.9	1.06	1.05	1.09	....	....	....	1.04	....	1.15	....	....	1.01	1.05	1.01	.97	....	1.06
30-30.9	1.09	1.10	1.12	....	....	....	1.08	....	....	....	....	1.05	1.09	1.05	1.00	....	1.09
31-31.9	....	....	....	....	....	....	1.12	....	....	....	....	1.08	1.12	1.09	....	....	1.12
32-32.9	....	....	....	....	....	....	1 15	....	....	....	....	1.12	1.15	1.13	....	....	1.15
33-33.9	....	....	....	....	....	....	....	....	....	....	....	1.16	1.18	1.17	....	....	1.18
34-34.9	....	....	....	....	....	....	....	....	....	....	....	1.19	1.21	....	....	....	1.21
35-35.9	....	....	....	....	....	....	....	....	....	....	....	1.23	....	....	....	....	....
36-36.9	....	....	....	....	....	....	....	....	....	....	....	1.26	....	....	....	....	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	1.30	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.34	....	....	....	....	....

Additional Standard Oil Quotations

Mountain View—Effective July 3, 1934, the following are the prices of the Standard Oil Co. of California for its current purchases of crude oil at the well in the Mountain View Field: 14 to 19.9 degrees, 57 cents; 20-20.9, 58 cents; 21-21.9, 59 cents; 22-22.9, 61 cents; 23-23.9, 65 cents; 24-24.9, 66 cents; 25-25.9, 69 cents; 26-26.9, 72 cents; 27-27.9, 75 cents, 28-28.9, 78 cents; 29-29.9, 81 cents; 30-30.9, 84 cents; 31-31.9, 87 cents; 32-32.9, 90 cents; 33 degrees and above, 93 cents.

Elwood Terrace—F.o.b. ship, 32 degrees, $1.03; 34 degrees, $1.06; 35-35.9, $1.09; 36-36.9, $1.12; 37 degrees and over, $1.15.

Newhall—14 degrees and over, 57 cents.

McKittrick and Kern River—14 degrees and over, 57 cents.

Wheeler Ridge—14 to 17.9 degrees, 57 cents; 18-18.9, 58 cents; 19-19.9, 61 cents; 20-20.9, 64 cents; 21-21.9, 67 cents; 22-22.9, 70 cents; 23-23.9, 73 cents; 24-24.9, 76 cents; 25 degrees and over, 79 cents.

Kettleman Hills—32-32.9 degrees, 93 cents; 34-34.9, 96 cents; 35-35.9, 99 cents; 36-36.9, $1.02; 37-37.9, $1.05; 38-38.9, $1.08; 39 degrees and over, $1.11.

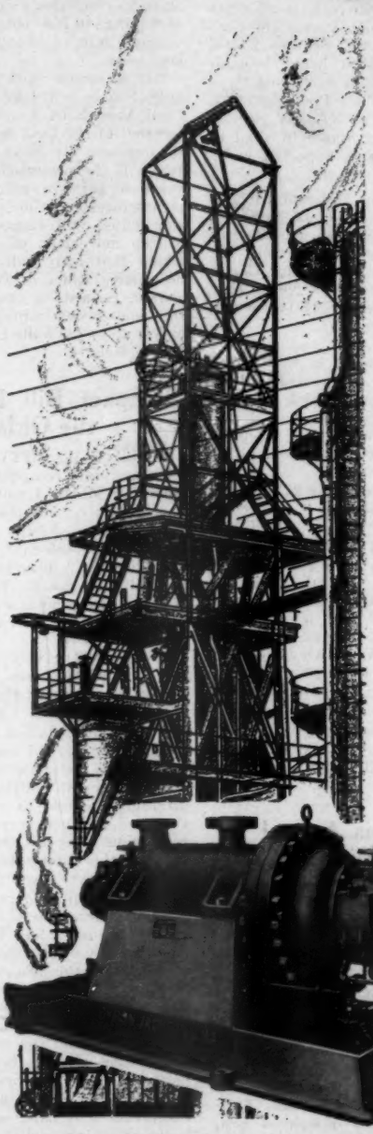
The Texas Co. posted in Shiells Canyon, South Mountain and Santa Paula as follows: 14 to 17.9, 57 cents; 3 cents added for each degree up to and including 26-26.9 degrees at 84 cents; then 4 cents added for each degree up to and including 30 degrees and over at $1. Company posts Standard Oil Co.'s Montebello prices in Montebello and North Whittier, and posts Standard Oil Co. prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield and Santa Fe Springs, all effective September 6.

General Petroleum Co. posts Standard Oil Co. prices in Athens, Rosecrans and Signal Hill; Alamitos Heights up to 26-26.9; Santa Fe Springs up to 35-35.9; Richfield up to 25-25.9; Brea Canyon and Olinda up to 25-25.9, and Torrance up to 25-25.9.

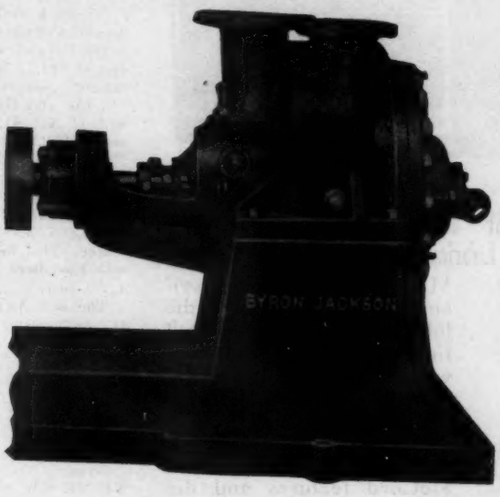
Union Oil Co., effective September 6, posts same price as Standard Oil Co. in all fields in which both purchases, excepting that in Athens-Rosecrans, Union Oil Co. posts 31-31.9, 72 cents, and 33--33.9, $1.18; 34-34.9, $1.21, and 35-35.9, $1.24.

Associated Oil Co., effective September 6, posted same prices for the same grades as Standard Oil Co. of California, excepting that in some fields its gravity scale stops as follows: Huntington Beach, 26 degrees and over; Seal Beach and Alamitos Heights, 36 degrees and over; Coyote Hills, 23 degrees and over; Richfield, 25 degrees and over; Torrance, 25 degrees and over; Inglewood, 24 degrees and over; Santa Fe Springs, 35 degrees and over; Midway-Sunset, Elk Hills, Buena Vista Hills, 36 degrees and over. Also Associated pays 52 cents for oil of 11 to 13.9 gravity in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills and Coalinga.

MODERNIZE YOUR REFINERY WITH BYRON JACKSON PUMPS

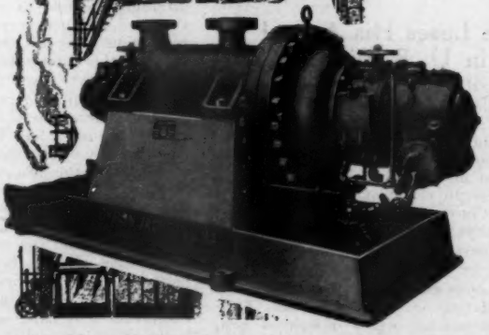


For every phase of refinery service there is a Byron Jackson Pump designed after many years' experience, with intimate understanding of refinery pumping problems, and certain to aid materially in reducing costs and increasing safety.



Distillate Pumps

The Byron Jackson centrifugal type VC Pump is designed for medium and high temperatures at medium pressures. In order to eliminate a dangerous horizontal split with a flat, irregularly shaped gasket, this pump features an end cover for inspection or removal of the rotating element without disturbing the suction or discharge piping, this cover seating on a single circular metallic gasket in a tongue and groove joint, thus eliminating all flat surfaces and presenting a machine that can be relied upon for difficult refinery services.

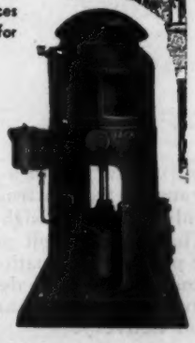


Hot Oil Charging Pumps

Byron Jackson Hot Oil Charging Pumps perform the most difficult oil refinery service with added efficiency and an extra factor of safety. They are available for capacities of 2,500 to 35,000 barrels per day at differential pressures up to 2,400 pounds. Subject to volumetric control, they maintain a steady, non-pulsating flow. Direct connected to motor or steam turbine or dual drive at constant or variable speeds. Ask for Bulletin No. 314.

Deepwell Turbine Pumps

All Byron Jackson Deepwell Turbines insure dependable water supply at low cost. Oil lubricated, of course, with cover pipe protecting drive shaft and line bearings. Made in a wide range of types and sizes from 10 to 10,000 G. P. M. against heads up to 1,100 feet.



SINCE 1872

BYRON JACKSON CO.

AND SUBSIDIARY

BERKELEY AND LOS ANGELES, CALIF.

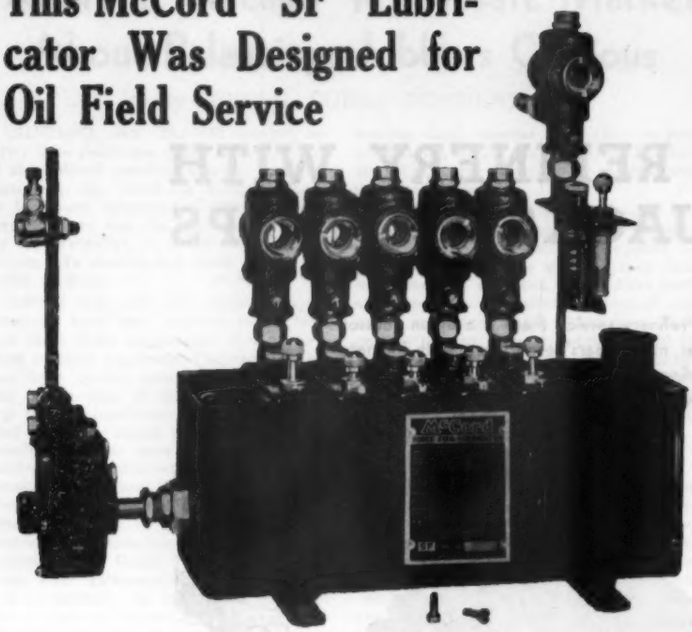
Bethlehem, Penna.

Sales Offices: New York • Fort Worth

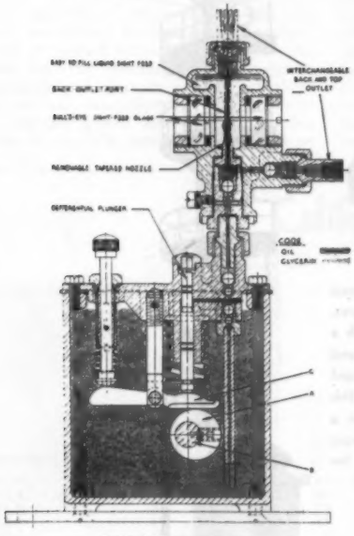
BYRON JACKSON

CENTRIFUGAL PUMPS FOR EVERY SERVICE

This McCord "SF" Lubricator Was Designed for Oil Field Service



The McCord "SF" Lubricator Backed by McCord's 38 Years Lubricator Building Experience



CROSS SECTIONAL VIEW OF McCORD CLASS "SF" LUBRICATOR

McCord's years of experience in supplying most of the lubricators used in the oil fields made possible this advanced "SF" lubricator design incorporating many exclusive features invaluable to users of lubricators in this field. The time tried McCord features and the ruggedness of its construction result in new standards of dependability and accuracy of operation. You can depend on a McCord Lubricator for years of service delivering oil with the same measured regularity winter and summer.

Positive lubrication is more than a statement with McCord, it is a fact. Changes of speed, load, or temperature do not affect the oil delivery from a McCord "SF" lubricator.

Flexibility of oil delivery with a McCord means accurate measured delivery ranging from a fraction of a drop to several drops each pump impulse. McCord sight feeds are on the discharge side of the pump. Therefore, all oil passing through the sight feed is delivered to the point of lubrication. McCord lubricators have the most flexible and accurate oil delivery of any lubricator on the market. Adjustments are easily and quickly made and once made maintain that oil delivery.

Any McCord pump unit may be removed without disturbing or in any way interfering with the operation of the lubricator. Remove two slotted hexagon nuts and the entire pump unit may be lifted out. This feature saves valuable time and eliminates the necessity of shutting down the pump compressor or engine.

A new catalog giving more detailed information on these features as well as other McCord points of superiority will be sent on request.

Specify a McCord lubricator on your next installation.

McCORD RADIATOR & MFG. CO.
Lubricator Division
Detroit, Mich.

THERE ARE MORE

McCord Lubricators

IN THE OIL FIELDS THAN ALL OTHER MAKES COMBINED

Late Fields

OKLAHOMA

In the Fitts Pool in Pontotoc County, Oklahoma, Deep Rock Oil Co.'s No. 2, C SW SE NE Section 30-2-7, started at 845 bbls. in 2 hours and 45 minutes. Bromide was topped at 3,975 feet, total depth at 4,234 feet. Carter Oil Co.'s No. 3, C NE NW SE Section 30-2-7, made 944 bbls. in nine hours by heads; bromide at 3,995 feet, total depth 4,215 feet. Carter Oil Co.'s No. 2, C SE SE NE Section 25-2-6, made 943 bbls. the first hour and 470 bbls. the next 30 minutes; bromide at 4,060 feet, total depth at 4,305 feet. Magnolia Petroleum Co.'s No. 5, C NW NW SE Section 25-2-6, made 770 bbls. the first hour; bromide at 4,102 feet, total depth 4,305 feet.

Southeast of the Fitts Pool, Lynch & Sledges' wildcat in SW NE SW Section 1-1-7, got nothing but water in sand at 4,637-65 feet. The water appeared at 4,651 feet.

Thirteen wells in the Crescent Field in Logan County were tested six hours for potential and were given an average rating of 814.17 bbls. per day per well. The largest potential was shown by Carter Oil Co. and Gypsy Oil Co.'s No. 2 Herren, C NE SE Section 28-17-1w, which was 2,332.85 bbls. per day.

Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s wildcat in C NE NE SE Section 31-11-4, penetrated Wilcox sand at 5,470-5,524 feet, which was dry and at 5,552-82 feet which showed salt water. The hole was plugged back to test Earlsboro sand which showed oil at 4,386 feet.

The new Altus Field in Jackson County, southwestern Oklahoma, is attracting wide attention. Gypsy Oil Co.'s third well in that field, No. 1-B Kelly, in NE NE NE Section 10-1n-20w, had granite wash pay at 1,404-24 feet, and the well did 367 bbls. on its best 24-hour test by swabbing and heads. One of the other wells had good shows of gas.

Gypsy's No. 1 Hensley (Alexander) in NE NE NW Section 10-1n-20w, is showing for a producer and running high on the granite wash. It had the level at 1,370-71 feet for a good show of oil and gas. At 1,355-60 feet a stray sand was picked up in this well and had an estimated 1,500,000 feet of gas.

Locke Loses His Appeal in U. S. Circuit Court

NEW ORLEANS, La., Jan. 26.—Texas oil regulations under the NRA and an order of the Texas Railroad Commission, was sustained when N. Locke, president of the Locke Drilling Co. of Gladewater, Tex., lost his appeal in the Fifth United States Circuit Court of Appeals. The Appellate Court affirmed the decision of the District Court for East Texas, and Locke must serve his jail centence of 90 days for being in contempt of court.

The Locke company had been charged with violating orders of the Texas Railroad Commission which restricted production. Defendants had moved to dismiss the charges on the ground that the recovery act and the petroleum code were beyond the national authority.

In its decision the Appellate Court says: "We are of the opinion that the court had jurisdiction over the case and incidental power to issue a preliminary injunction. Locke not electing to review the injunctive order by appeal, was bound to obey it and was rightly held in contempt for his wilful disregard of it."

McMURREYS ARRESTED

DALLAS, Tex., Jan. 29.—R. J. and M. H. McMurrey, officials of Tyler Texas Oil & Refining Co., have been arrested by federal men for failure to post bond and register their plant at Tyler. Three others were filed on but not yet arrested.

I.P.A.A. DATE

DALLAS, Tex., Jan. 28.—The annual meeting of the Independent Petroleum Association of America will be held November 4 and 5 at Dallas, it was announced by C. E. Buchner, of Tulsa, executive manager, after a conference with the Dallas Chamber of Commerce arrangements committee.

Halts Shipments Being Made Under Injunctions

(Continued from Page 12)

Coast points and refineries, which are not shown on this report. There were 20 casinghead gasoline plants operating in the field, and 82 refineries.

Overproduction in the field is now estimated around 50,000 bbls. per day. Runs to refineries gained again this week, averaging 49,735 bbls. per day, a daily average gain of nearly 16,400 bbls. over last week.

All attention will be focused on the appeal to be heard by the Third Court of Civil Appeals at Austin, and everyone intereated in the field is anxiously awaiting its outcome. It is an all-important case, which if the commission loses, is sure to cause a gain in refined products shipments for some time, but if the commission wins, will immediately put a stop to the movement of those products for which that body will not grant tenders, no matter when it was said to be purchased, refined, or otherwise obtained. If the commission wins, overproduction is expected to be halted immediately again in the field.

Compact Bill Before the Oklahoma Senate

OKLAHOMA CITY, Okla., Jan. 28.—The interstate compact bill sponsored by Governor Marland moved forward another step today when the state senate, after 30 minutes of debate, pushed the bill directly to the calendar without committee consideration. The lower house passed the bill last week. With Floor Leader Nance of the senate guiding the measure, the upper house will reach a final vote on it this week.

W. J. Reid, president of the Hancock Oil Co., in Oklahoma City for a conference with Governor Marland, said today:

"The State of California has not passed any legislation authorizing its entrance into any oil states compact. The independent oil men of California, who are a powerful political factor, are unalterably opposed to any federal regulation and are not very keen about state regulation. But we are open-minded relative to this interstate oil pact, provided it does not take away from us any of our rights as oil producers.

"I am here solely to learn from the governor just what he proposes. The thing we are vitally interested in, in connection with the proposed pact, is whether there will be congressional action that will penalize the states that do not enter the compact.

"It is unusual for an oil state to have a governor who has been in the oil business and knows our problems," Reid said. "and for this reason we independents in California will listen closer to any plan he has than we would otherwise."

CARBON BLACK APPEAL

Pending with the Oklahoma State Supreme Court is an appeal filed by the Cities Service Gas Co., the Texas Interstate Pipe Line Co., and the Panhandle Eastern Pipe Line Co. attacking action of the State Corporation Commission several months ago in granting a permit for construction of a new carbon black plant near Guymon in Texas County, in the Oklahoma Panhandle.

The appeal charged the permit was granted in violation of state conservation laws and that the permit was issued without the commission checking into the matter of waste of natural gas.

CAPTAIN STANLEY RESIGNS

AUSTIN, Tex., Jan. 29.—Capt. E. N. Stanley, chief enforcement officer of the Railroad Commission oil and gas administration, today resigned to accept private employment, which he said was a "better job." His successor has not been named by the commission.

Rx

YOUNGSTOWN

On drill pipe .... casing .... tubing .... line pipe .... it's a wise precaution to prescribe "YOUNGSTOWN" oil country tubular goods in the first place and avoid later complications and relapses.

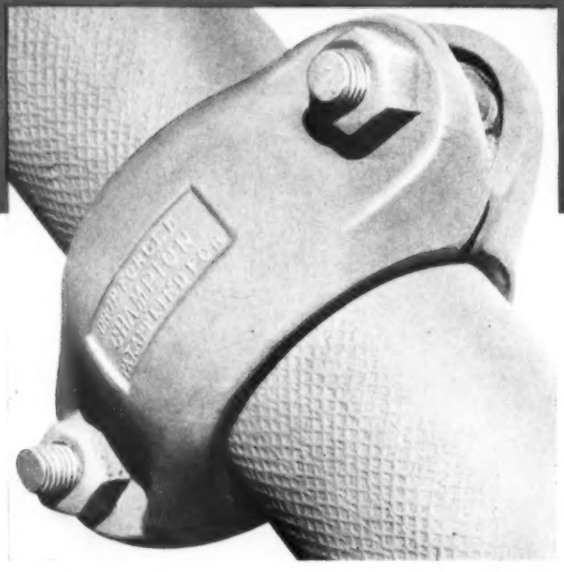
THE YOUNGSTOWN SHEET AND TUBE CO.
Manufacturers of Carbon and Alloy Steels
General Offices YOUNGSTOWN, OHIO

Youngstown's pipe is distributed by
THE CONTINENTAL SUPPLY CO., Dallas, Texas
REPUBLIC SUPPLY CO. OF CALIFORNIA
Los Angeles
THE YOUNGSTOWN STEEL PRODUCTS CO.
Dashwood House, Old Broad Street,
London, E.C. 2, England

OIL COUNTRY
TRADE MARK
YOUNGSTOWN
PIPE

PLANKS IN THE CONTINENTAL PLATFORM

To go 101% in service .... never to begrudge a plus-effort for a customer .... to earn a deservedly high reputation for prompt unsparing co-operation .... these are basic planks in CONTINENTAL policy.



CHAMPION *Drop Forged Gasket Type* COUPLING

Champion Couplings afford the quickest, easiest and most efficient method of joining pipe. With their positive seal and bull-dog grip they make a joint that is as strong and secure as the pipe itself.

These couplings are drop-forged from a special steel to secure a combination of strength and lightness, and have been tested to 4000 lbs. hydrostatic pressure and 78,000 lbs. end pull, and will hold a vacuum under even the most severe conditions.

Our representative will be glad to give you complete details.

"Serving the Oil and Gas Industries"

THE CONTINENTAL SUPPLY COMPANY

General Offices: DALLAS, TEXAS

THE CONTINENTAL SUPPLY CO., Ltd., 618 Lancaster Bldg., Calgary, Alberta, Can
Export Offices: CONTINENTAL EMSCO CO., Inc., 30 Rockefeller Plaza, New York
London Offices: Dashwood House, Old Broad Street, London, E. C. 2, England
CONTINENTAL EMSCO S.A.R. Strada Marfurilor, Ploesti, Roumania

Unusual Procedure for Pipe Line River Crossing

By NEIL WILLIAMS
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Jan. 28.—A somewhat unusual procedure for river crossings was undertaken successfully by Humble Pipe Line Co. in replacing a line across Clear Creek, near Webster, on its West Columbia-Webster system. Although Clear Creek is not a major stream and laying a line across it ordinarily would not be considered a difficult project, similar types of crossings might be used to advantage on larger jobs.

In ordinary practice for such a crossing, the replacement pipe would have been laid out on one bank of the creek in joints, or in sections of several joints. The first joint or section of pipe would be started across the creek, and then as the line was pulled across, the remaining joints or sections would be coupled or welded on, section by section, until the entire crossing was made. This pipe then would be tied into the ends of the line on each bank and the job would be complete.

There are several objections to such a crossing. In the first place the pipe itself as it is pulled across generally is straight. It is allowed to sag or sink to the bottom through its own weight and flexibility. Due to irregularities in the water bed the pipe cannot conform itself always to the contour of the bottom at all places; consequently the entire weight of the pipe is not supported solidly on bottom and some sections may tend to hang in suspension. This places a stress on the pipe which sometimes results in breaks or other premature damage.

Also, under such conditions of pipe laying it is not always possible to provide a satisfactory coating job. Even if the pipe is properly covered and protected while on the bank as it is being pulled in, the later bending or sagging of the pipe as it seeks its resting place on the water bed tends to crack and break the coating material, exposing the metal of the pipe to any corrosive elements.

A plan for overcoming these objections was worked out by Humble Pipe Line Co. and was tried out when it became necessary to replace the Clear Creek crossing on the West Columbia line. The plan in general called for shaping in advance the pipe for the crossing so that when in position it would fit exactly the contour of the water bed, coat and protect the entire section on the bank, and then float the section intact across the water.

Wiring strips of lathing on section of pipe of river crossing on Humble Pipe Line Co.'s West Columbia-Webster line. The lathing was applied for protection of coating while pipe was being pulled across Clear Creek

The Clear Creek crossing to be replaced consisted of a section of approximately 500 feet of 8-inch pipe. The first step in the procedure was to make a very thorough survey of the bottom of the creek. Soundings were made at intervals of 5 feet or less across the creek at the point of crossing and these depths were accurately charted in a cross section drawing to scale of the contour of the creek bed.

Pipe for the crossing replacement then was laid out on the bank in position and all connections were made and welded for the entire section. With the plotted cross section drawing of the water bed contour as a guide, the pipe was cold-bent to scale to conform to the contour of the bottom and the ditch up the banks of the creek. In this the maximum depth of the bend was 18 feet.

Coatings and pipe protection then were applied the full length of the 500-foot section and thoroughly checked for holidays. With this job completed the problem was faced of pulling the section across the creek intact and setting it in proper position without damaging the coating material. The weight of the pipe was such that to skid it across the ground the coating material would be subjected to injury and possibly would be scraped off the bottom.

To get around this difficulty the entire section was stripped with ordinary laths laid lengthwise along the pipe and

(Continued on Page 52)

Lathed section of pipe laid out on ground preparatory to being pulled into place in crossing of Clear Creek on Humble Pipe Line Co.'s West Columbia-Webster line. The pipe was cold bent according to the contour of the creek bottom and the entire section was pulled into position

Floating of lath protected section of pipe across Clear Creek on Humble Pipe Line Co.'s West Columbia-Webster line

18,197 Wells Completed in 1934 Opened Few Pools of Importance, But Many Small Ones

By JAMES McINTYRE

While oil or gas was found in many new places in the United States in 1934, the 18,197 new wells completed opened only very few fields that would come under the head of major pools. Since the East Texas Field was opened in the fall of 1930 the only new field of large production has been Conroe, a Gulf Coastal pool, which has been altogether defined, and the Midland Field in the State of Michigan.

Last year's crop of sizeable pools consisted of the Hunton and Siliceous lime discoveries in the Haury-Burrton Pool in Kansas, the deep sand production in the Fitts Pool in Oklahoma; the South Burbank Pool in Oklahoma, the Bosco Pool in Coastal Louisiana, and the Cooper Pool in New Mexico, and of these the Fitts Pool looks like the most important.

It was in fact a poor year's crop, and outside of East Texas and Conroe, the past four years' results have been very meager when one looks back to the 1920-23 period with its successions of very large fields which included Santa Fe Springs, Long Beach, Huntington Beach, and Torrance, in California; Burbank, Tonkawa, and Hewitt, in Oklahoma; Smackover, Arkansas; Goose Creek, Mexia, and Powell, in Texas, which were brought in within that four-year period, pools of tremendous production and long life.

The total number of wells drilled last year, 18,197, was 5,885 more than the number completed in 1933, and it is safe to make the prediction that this year's drilling campaign will see no letup, but in most of the oil-producing states will be even more active than that of 1934.

Refiners cannot get all their supply from the few large fields in the Mid-Continent and Gulf Coast, and refiners who are also producers have in the past few months been combing the large territory geophysically for likely looking structures. The land departments of the large oil companies are busier at the opening of 1935 than they have been since 1930. Wildcatters are out ahead of the known fields punching holes in the earth, spurred on by their confidence that the price of oil will not fall, but may rise.

Important New Pools in Oklahoma

Two important pools of the many opened in Oklahoma last year were South Burbank in Osage County, and the deep pay in the Fitts Pool in Pontotoc County. Potentials taken of wells in the Fitts Pool show them to be very prolific producers, the first 20 wells tested showing an average of considerably over 3,300 bbls. per well per day in their flush state. The South Burbank Pool was drilled very conservatively and only 78 oil wells were recorded in that pool up to the close of the year. Both pools are being developed on a 1 well to 10-acre basis, and only line wells were drilled.

Fitts Pool wells are permitted to flow only a short time in their initial stage but some of them could have been rated at over 10,000 bbls. in 24 hours had they been permitted an open flow for a 24-hour period. Fitts is believed to be only one pool in the so-called Graben area which takes in southern Pontotoc County, a part of Coal, Johnston, and Murray Counties. It will be given a thorough wildcat play and the opinion is quite general that other rich pools will be opened in the region. The limits of the Fitts Pool have not been determined. It is a remarkable field in that oil or gas may be uncovered in numerous sands down to and including the lower Simpson. Tremendous gas production was mudded off with difficulty in some of the wells on the way down to the big oil pay.

The Polo Pool in Noble County was a small but rich pool, discovered last year and the Edmond Pool in Oklahoma County which was opened in 1930 and the discovery well shut in until last year, had four other big producing wells drilled last year and this pool may prove to be of considerable area.

SUMMARY OF COMPLETED WELLS IN ALL THE FIELDS OF THE UNITED STATES IN 1934 AND 1933

		Comp.	Init. prod. (bbls.)	Dry holes	Gas wells	Oil wells	Av. init. prod. (bbls.)
Eastern	1934	2,519	12,456	215	370	1,934	6.4
	1933	1,650	10,305	158	284	1,208	8.6
Central Ohio	1934	679	4,195	159	346	174	24.1
	1933	378	1,643	102	202	74	22.2
Lima	1934	103	938	34	21	48	19.5
	1933	123	2,344	30	42	51	46.0
Indiana	1934	186	2,091	76	41	69	11.2
	1933	170	1,672	63	55	52	32.2
Kentucky-Tennessee	1934	352	16,177	107	9	236	68.5
	1933	186	4,485	93	10	83	54.1
Michigan	1934	441	205,978	108	59	274	751.8
	1933	296	150,086	67	11	218	688.4
Mississippi	1934	32	.....	25	7	....	.....
	1933	42	150	25	16	1	150.0
Alabama	1934	4	0	4	0	0	.....
	1933	3	0	3	0	0	.....
Illinois	1934	16	120	9	1	6	20.0
	1933	14	24	9	1	4	6.0
Kansas	1934	835	300,789	222	22	591	509 3
	1933	539	193,736	134	16	389	498.0
Oklahoma	1934	1,717	673,875	465	91	1,161	580.4
	1933	1,093	307,323	353	72	668	460.1
North Central Texas	1934	2,179	160,403	903	44	1,232	130.2
	1933	1,163	44,184	608	31	524	84.3
East Central Texas	1934	158	4,640	87	8	63	73.6
	1933	105	1,968	83	0	22	89.5
East Texas	1934	3,517	197,319	71	5	3,441	57.3
	1933	2,467	157,078	58	4	2,405	65.3
East Texas gas area	1934	16	15	13	2	1	15.0
	1933	25	65	22	0	3	21.7
West Texas	1934	562	1,022,448	114	5	443	230.8
	1933	298	67,091	58	3	237	283.1
Texas Panhandle	1934	435	135,833	24	58	353	384.8
	1933	191	40,953	15	24	152	269.4
Southwest Texas	1934	1,234	171,106	578	87	569	300.7
	1933	951	161,853	527	52	372	435.1
Gulf Coast—Texas	1934	1,237	488,369	411	70	756	646.0
	1933	1,359	1,342,716	303	26	1,030	1,303.6
Gulf Coast—La.	1934	371	192,398	118	3	250	769.6
	1933	225	77,879	123	2	100	778.8
North Louisiana	1934	396	13,153	180	77	139	94.6
	1933	343	19,795	193	48	102	194.1
Arkansas	1934	87	9,147	52	0	35	261.4
	1933	48	477	42	0	6	79.5
Montana	1934	184	13,194	36	21	127	103.9
	1933	75	4,289	18	12	45	95.3
Wyoming	1934	67	8,194	14	9	44	186.2
	1933	62	2,104	24	14	24	87.7
Colorado	1934	24	16,602	13	4	7	2,371.7
	1933	30	1,239	21	6	3	413.0
New Mexico	1934	144	258,624	24	13	107	2,417.2
	1933	61	148,936	15	1	45	3,309.7
Utah	1934	3	.....	3	....	....	.....
	1933	4	3	2	0	2	1.5
California	1934	699	570,637	247	0	452	1,262 5
	1933	411	274,104	163	0	248	1,105.2
Total	1934	18,197	4,478,701	4,312	1,373	12,512	358.0
Total	1933	12,312	3,016,502	3,312	932	8,068	373.9
Difference		5,885	1,462,199	1,000	441	4,444	15.9
Record for Past 10 Years							
Total	1934	18,197	4,478,701	4,312	1,373	12,512	*358.0
Total	1933	12,312	3,016,502	3,312	932	8,068	*373.9
Total	1932	15,021	2,368,238	3,550	1,027	10,444	*226.8
Total	1931	12,432	5,490,609	3,659	1,985	6,788	808.8
Total	1930	21,240	9,955,835	6,734	2,866	11,640	855.3
Total	1929	26,356	6,170,311	7,914	2,870	15,572	396.3
Total	1928	22,331	8,365,778	7,078	2,727	12,526	667.9
Total	1927	24,143	4,918,197	7,210	2,491	14,442	340.4
Total	1926	29,319	3,683,787	7,965	2,341	19,013	193.7
Total	1925	25,623	4,300,356	6,735	2,330	16,558	260.0
Total	1924	21,894	3,255,491	4,950	2,173	14,771	221.0

*Initial production of wells in East Texas and Van Pool in East Central Texas represent only short time flow ranging from a few minutes to one hour, in most cases, therefore the average initial production per well in 1932, 1933 and 1934 does not have the significance such averages had in previous years when based on full 24-hour initial production. Initial production of wells in the Oklahoma City, Oklahoma, Field, and in some other flush pools in the State represent short time flow, generally of four hours' duration.

Kansas' Fruitful Year

Twenty-two pools of more or less consequence were among the 27 oil or gas discoveries made in Kansas last year, but the most important discoveries of the year were not in new pools, but in deeper pays. In the Haury-Burrton Pool, eastern Reno County, where production was coming from Chat, the Sinclair Prairie Oil Co. drilled deeper and opened a rich production in Hunton lime. Later in the year the Barnsdall Oil Co. proved an even deeper pay, the Siliceous lime, but plugged back to the Hunton because operators in the field desired first to develop the two upper pays before taking the Siliceous lime oil. It was a busy year in Kansas where 835 wells were completed of which 591 were oil wells averaging 509.3 bbls. in initial production per well. An increase of 55 per cent in completions and over 55 per cent in initial production over the 1933 record indicates how busy Kansas operators were last year. Production was extended almost to the Colorado line when a good well was completed in Scott County near the close of the year, and production in the southern tier of counties was extended westward to Barber County. McPherson and Rice Counties were the most active in the search for new production, but Russell County held the palm for wildcatting.

Gulf Coast Field

A decline in completed wells on the Gulf Coast was caused by the fact that the big Conroe Pool was pretty well drilled up in 1933 and the rush of development work there gave way to outside operations pursued in the hope of finding other pools of Conroe size, which campaign failed to open anything of great importance in 1934. The Tomball Field in Harris and Montgomery Counties shows 111 completions of which 81 were oil wells and 19 gassers, and this field was second in the Texas Coastal region in the number of wells drilled in 1934. Notwithstanding the drop in drilling in Conroe that field saw the completion of more wells in 1934 than any other in the Texas-Louisiana Gulf Coast Field. Conroe's completions numbered 182, of which 166 were oil wells credited with an average initial production of 1,352 bbls. per well. The Tomball Field had 111 completions, of which 81 were oil wells and 19 gas wells. In the Texas Gulf Coast fields, 1,237 wells were completed, a decline of 122 from the year before.

On the other hand, the activity in the South Louisiana Coastal region was never so great as last year. It was widely scattered. The total of 371 completions was 146 more than in 1933. The initial production of the oil wells averaged 769.6 bbls. per well, while those in the Texas Coastal fields averaged 646 bbls. per well as against 1,303.6 bbls. per well in 1933.

Seventeen new pools were opened in the Coastal fields, 14 in Texas and 3 in Louisiana, last year. The most important of these was the Bosco Pool in Acadia and St. Landry Parishes, Louisi-

ana, where 21 wells were completed averaging 891 bbls. in initial production.

New Pools in West Texas

West Texas at the close of 1934 had 15 productive spots it could not claim at the close of 1933. Ten of the discoveries were completed and five were held over for completion in 1935. None of the pools at this early stage promises to be of the caliber of the fields that made West Texas famous. A total of 562 wells was completed in West Texas, an increase of 264 over the previous year. The dry holes numbered 114 and 5 gas wells were completed. The largest initial production came from the Yates Pool in Pecos County where notably large wells were completed. The total initial production must not be taken to indicate that the wells produced that much oil initially. The figure represents the field estimate of what the wells would have done had they been permitted to produce the full 24 hours. The estimated initial potential of the Yates County 1934 crop of oil wells was 16,870 bbls. per well. Ward County was by far the busiest field in West Texas with 130 completed wells.

Very Active in North Texas

North Central Texas, with 2,179 completions, an increase of 1,016 over the 1933 record, hummed with activity last year. Archer County is credited with 963 new wells of which 673 were new oil wells with an initial production of 103,480 bbls. Shackelford, Wichita and Wilbarger Counties, each averaged more than three new wells per week and Wilbarger saw 122 completions during the year. Out of the total of 2,079 completions the dry holes numbered 903 and gassers 44. Two hundred and ninety dry holes were drilled in Archer County alone. A 2,000-bbl. well on the J. L. Anderson ranch north of Olney started a lot of drilling in the neighborhood. The success with which operators met in acidizing wells in the North Central Texas area was responsible for a lot of the increased drilling, as acidization extracted paying production in the limestone area. New pools were brought in in Brown and Coleman Counties and numerous extensions were recorded in older pools.

Panhandle Discoveries

In the Panhandle three discoveries of new pools were made, two in Hutchinson County, and one in Gray County, and a new pool was opened in Wheeler County. There was a strong revival of operations in the district with 435 completed wells recorded as against 191 the year before.

East Texas

The orgy of drilling in East Texas, which began in 1931 and has been kept up since with varying intensity, resulted last year in 3,517 new completions as against 2,467 the previous year. At the close of 1934 there were 15,480 oil wells in the big field, 156 wells drilling and 111 rigs up where drilling had not been started. The December record of completions was 280 new wells, all of which indicates that plenty of field work is to be done in the big area this year. In the East Central Texas Field the search for new oil pools was unsuccessful and 87 dry holes represent the stricken hopes of searchers after new Mexias, Powells and Vans.

Results in South Texas

Fifteen new pools were opened in nine counties in Southwest Texas last year including new gas-producing spots. None of the pools threatened to upset the crude market and the initial production of some of the discovery wells was small. The Sam Fordyce Pool in southwestern Hidalgo County appears to be the most important discovery of the year in Southwest Texas. It received a rapid development after the discovery was made in September and 22 oil wells were completed before the close of the year. The West Tuleta Pool, another of the 1934 crop of new wells was another important find and may become a major pool. Shallow gas and shallow oil discoveries were features of the year's work.

New Mexico

The Cooper Pool in Lea County, New Mexico, was one of the few important discoveries of the year in the United States. The discovery well which produced 5,400 bbls. in 24 hours was followed by 24 others, the combined initial production of which was estimated at 88,042 bbls. It lies between the Jal and the Eunice Pools, in Township 24s-36e. The North Lea Pool in Lea County, and a new pool northwest of the Getty Pool in Eddy County, were also worthy of note.

Rocky Mountain Results

Two discoveries were made in Colorado and three in Wyoming, one of these in the latter state, a light oil pool, in Albany County. Montana went through the year with no new pools but drilling operations in that State resulted in 184 completions as against 75 the year before.

Louisiana-Arkansas District

Results in North Louisiana and Mississippi last year were negligible, notwithstanding the efforts of operators to find new oil and gas areas. The Rainbow Pool in Union County, Arkansas, caused considerable excitement in the latter weeks of the year but the interest in it was not maintained.

Improvement in California

General oil conditions in California were better last year than in 1933 and a stabilized price condition on the West Coast resulted in the liveliest drilling the State has seen since 1930. Four hundred and fifty-two oil wells were completed in 1934 as against 248 in 1933 and 184 in 1932. The completions averaged 1,262.5 bbls. initial production per well against 1,105.2 bbls. in 1933. Only one new pool was discovered in the course of the year. Long Beach with 83 new wells led all fields in activity. Forty-one oil wells on the north dome, Kettleman Hills, averaged 6,990 bbls. in initial production, indicating what havoc that field could create if it were developed as some of the Mid-Continent fields have been.

Development work in Illinois, Indiana, Kentucky, Central Ohio and northern Ohio throughout the year was of a routine character, but the total number of wells drilled in that old Central West Field was 1,336 as against 871 in 1933.

Michigan's Busy Year

Four new oil pools were discovered in Michigan last year, together with two gas fields. With a steady $1.04 price, Michigan operators were stimulated to drill and 441 completed wells were recorded as against 296 the previous year. The oil wells completed had an average initial production of 752 bbls. per well. Tight proration rules kept production down to demand and stabilized the market price.

Activity in Eastern Fields

The Eastern or Pennsylvania Grade fields with a good market price for oil most of the year responded with a drilling campaign that completed 2,519 wells as against 1,650 the year before. It was the busiest year since 1930. Bradford Field operators completed 1,336 wells, and the field was second only to East Texas in the number of operations during the year.

President Charles L. Suhr Broadcasts Facts About Oil Industry

By CHARLES L. SUHR

President of the National Petroleum Association and President of the Pennzoil Co.*

At the present time, in excess of 2,000,000 bbls. of crude oil are produced every day in the United States to be turned into commercial products. Most of it comes, not from the old regions which were the scenes of the industry's birth and early development, but from newly discovered fields. When the drill first touches some of these great pools of oil, they burst forth under natural pressure sometimes to deluge the immediate scene, but always, in effect, to inundate the petroleum distribution system of the nation. Unless the flush pool is confined, regulated if you please, it will, in a relatively short time, "blow its head off," as we say, and thereafter its yield will be low and slow. The gusher well, in time, becomes what we call a stripper well. The oil, having lost the lifting power of the gas, comes to the surface in small quantities with the aid of the pump.

Therefore, we know that every flush field, no matter how immense may seem to be its resources, eventually settles down to minor production. It is so with the old wells in Pennsylvania and adjacent states and it has been so in Kansas, Texas, California, Oklahoma, and all the other oil-producing states. When a great new field, such as East Texas, or Seminole, Oklahoma, or Signal Hill, California, is first tapped, it produces at low cost a volume of oil enormously greater than any immediate need. If not confined within its native earth, the flow soon swamps the markets, overflows all available storage, and is wasted. Unrestricted flow of gusher oil necessarily leads to waste. Therefore, the influence of the leaders of the oil industry and the Federal Government as well has been exerted to restrain the natural flow of new fields so that their irreplaceable treasures may be stored against future needs. Just as we are seeking, in the public interest, to conserve our timber reserves for reasonable use of this generation and the next, so we seek, by all manner of legitimate methods, to insure posterity an adequate supply of our rich and lavish supply of crude petroleum.

Pennsylvania's Lesson

In the Pennsylvania region, which really includes portions of the States of New York, West Virginia and Ohio, we have long since learned the lesson of conservation. Ours was a flush field 50 and 60 years ago. Now we are in settled production. We could, if we would, step up our output of oil probably to twice its present volume. To do so, however, would be to flood our markets, to entail physical waste, and to outrage the sensible economic laws of supply and demand. We have learned not only the lessons of self-control, but also the lesson of co-operation and mutual confidence. Producers, refiners, and marketers meet in common councils to solve their problems. Perhaps that is why we have survived so long. It is not easy for the most rampant economic forces to unseat an industry which is based so soundly.

As you read highly colored stories about boom days in the oil field or listen to adventurous narratives of those who have followed the rush of black gold, you can hardly visualize the Pennsylvania fields of today. On our wooded hillsides and along our brushy creeks, where a billion barrels of crude oil have been produced and according to geologists 5,000,000,000 bbls. more remain in the sands, you find oil wells and growing crops side by side. Indeed, the oil producer is often a farmer, too. He may, in a single day, repair a well and stack his hay or harvest his corn. There are not many large operators in the Pennsylvania region. Many of the producers are sons of men who owned the farms on which they live; they are part of their native soil. They do not follow the bright prospects of riches from field to field. They live and prosper in a land packed with the historic records of their own ancestors.

I am impelled to say that the oil industry, in fact, industry generally, needs more of such democracy. Particularly in the marketing of petroleum products, we might well follow the successful system which has developed from the experience of these Pennsylvania pioneers. Instead of encouraging the distribution of gasoline and oil through great systems of service stations, I am constrained to believe that the final user of these products, no less than those who are engaged in its production and manufacture, would be better served were the outlets operated by the small business men such as those who were the consumer's chief source of supply in the days past.

Individual Enterprise

Our Pennsylvania producers still compete with the great flush fields of the West. Our small refineries, by constantly improving their product, compete with the bigger companies with immense refining capacities. And, freed from certain contractual limitations which now hobble their operations, the oil marketers of this country could efficiently and economically distribute their petroleum products to the nation.

I firmly believe that a policy which does not offer the widest latitude to the development of individual enterprise is unsound and unsafe. Much has been said of late about "capitalism being on trial." Perhaps it is. But it is well to remember that it is a capitalistic system that has given our country the highest standard of living of any nation, and has made us envied by the world at large. Capitalism will survive just so long as there are plenty of capitalists, particularly small ones.

We generally define a man who owns a stock certificate as a capitalist, but, if he is a casual investor only, I would define him as a capitalist of the second or third class. The real capitalist, according to my way of thinking, is a man who has a business of his own and spends his time running that business. He is the man whose record will sustain and successfully plead the case of the institution of capitalism when it comes up for trial.

A man usually gets his economic theories from his economic experiences. We who have been in the oil business with the early pioneers have learned that we can survive only as we are able to serve; that it is the consumer who, in the long run, dictates the principles of any successful business which supplies his needs; that American enterprise is adequate to overcome the obstacles to progress; and that the fullest dependence can be placed in the integrity, the intelligence, and the ingenuity of those American who have had the courage to establish their own enterprises and operate them in the public interest through good times and bad.

To these typical Americans the oil industry owes a great debt. I offer them this humble tribute.

*On the "Forum of Liberty" broadcast over Columbia network, January 24.

Price Wars and Race for Gallonage Leave Their Marks on the Gasoline Statistics for 1934

By T. F. SMILEY

Price wars and the scramble for gallonage left their unsightly scars on gasoline statistics for 1934, the records showing that in various parts of the country the price charged the motorist barely paid manufacturing and selling costs. Sometimes it didn't even do that. This misplaced altruism brought the average price of gasoline in 50 representative cities in November to an all-time low for that month besides making some other records not pleasant to look at.

The car owner in Peoria, Ill., for example, got regular-grade motor fuel for 9½ cents a gallon. This price included a tax of 4 cents. When this is subtracted, along with the freight charge of 2.34 cents and the presumed dealer's margin of 3 cents, it becomes apparent that the refiner must have been gleaning about 16/100 of a cent for making the gasoline. Other points in Illinois, in Missouri and in the East benefited similarly from the generosity of oil company sales divisions. Gallonage records, not profits, seemed to be the goal.

Reference to the tables showing the nation's gasoline prices by geographical groupings reveals that in the 48 cities listed all except four were getting motor fuel January 1, 1935, for less than they did January 1, 1934. In two, Philadelphia, Pa., and Atlanta, Ga., the filling station prices were the same as the year before. In Helena, Mont., and Norfolk, Va., there were small advances.

Sharp Drops Recorded

The biggest drop was in Manchester, N. H., from 14.7 cents on January 1, 1934, to 9 cents on January 1, 1935, a difference of 5.7 cents. The next biggest was one of 4½ cents, in Phoenix, Ariz., where the descent was from 15½ cents to 11 cents. All these prices were exclusive of tax.

Considering each group as a whole, the Midwestern experienced the greatest loss in its total average for the year, its 17.2 cents on January 1, 1934, comparing with 15.4 cents in 1935, excluding tax, a falling off of 1.8 cents. The average for the whole 50-city group January 1, 1935, exclusive of tax, was exactly 1½ cents less than the average of 14.32 cents recorded January 1, 1934.

The highest service station price for gasoline in the United States on January 1, 1935, was 19 cents (25 cents with the 6 cents tax added) paid in Helena, Mont. Close behind were Boise and Twin Falls, Ida., in each case 18½ cents, plus 6 cents tax. On January 1, 1934, the one-half cent a gallon Federal emergency tax imposed on gasoline June 17, 1933, was dropped, the consumer receiving the benefit.

The hopeful frame of mind with which the market started off in 1934 was maintained pretty well throughout the first half of the year. Notwithstanding several periods of hesitation and backsliding the 50-city average each month recorded an advance over the corresponding month of 1933. Willingness to look on the bright side waned rapidly after August, the 50-city average showing a drop each month. On November 1 the composite price was 11.92 cents, exclusive of tax, the lowest for that month in the 11 years during which the 50-city record has been kept and 2.38 cents less than the figure for the same month in 1933. The support which the gasoline market received during the first eight months was sufficient to bring the 50-city average for the whole year to 13.60 cents, topping the 1933 average of 12.76 cents by .84.

Business Swings From Independents

The most significant development witnessed in the gasoline market in 1934 was probably the steady swing of business away from small independent sources of supply to the larger integrated companies. This shift was part of the backwash from savage competition in which integrated companies were reported not only to be sacrificing all profit, but in many instances actually to be selling at a substantial loss. Many jobbers and dealers who previously had bought almost entirely in the open market from independent refiners entered into contracts, some for a yearly period, with these integrated companies which were offering such alluring prices. This had the effect not only of reducing the independent refiner's business, but of sharply contracting the volume of spot business, with the result that some brokers, through whom such trading is largely handled, have declared it almost impossible to continue.

The year saw also the rise and fall of an ambitious buying program under the sponsorship of the Planning and Coordination Committee by which it was hoped to clear East Texas of excessive stocks of gasoline and check the flood of illegal crude in that area. It did neither. The plan looked to the purchase by major refiners of about 3 per cent of their gasoline requirements from the smaller independent refiners in East Texas instead of taking this material from their own stocks. It was predicted this would remove all distress gasoline.

To prevent further accumulations each refiner thus relieved of his surplus stock was required to sign an agreement that he would make no more gasoline than permitted under his allowable fixed by the P. and C. Committee and that he would neither produce, transport nor process any illegal oil.

A stipulation at which some refiners balked was one providing that 75 per cent cash be paid on shipment, 12½ per cent in 45 days and the remaining 12½ per cent in 90 days, these deferred payments being conditioned upon faithful performance of the contract by the refiner. However, about 85 per cent of the East Texas refiners (plant capacity considered) entered into the plan.

But Crude Runs Soared

In the two months during which efforts were made to put this program into operation it was estimated that the crude runs to East Texas refineries doubled. Instead of curbing hot oil, the plan put a premium on its production and demoralized the market. Among reasons for this was the fact that while "official" prices were being paid for gasoline bought on contract under the

Trend of Gasoline Service Station Prices

AVERAGE SERVICE STATION PRICES IN CENTS IN 50 REPRESENTATIVE CITIES, EXCLUSIVE OF TAXES

	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
January 1	16.45	18.82	20.26	16.41	18.32	17.23	14.56	12.87	12.54	14.32
February 1	19.37	16.91	20.16	16.36	17.59	16.96	14.83	12.97	11.63	13.87
March 1	21.70	19.89	19.63	16.80	17.21	16.23	14.86	12.91	11.49	14.18
April 1	21.30	21.14	18.79	17.16	17.38	15.92	13.68	13.18	11.58	13.57
May 1	20.99	21.13	17.97	17.47	17.48	16.95	12.40	13.59	11.60	13.55
June 1	20.74	22.13	17 25	17.56	18.32	17.01	12.21	13.68	10.82	13 92
July 1	21.99	22.22	17.38	17.56	18.48	16.56	12.46	14.21	13.06	14.06
August 1	22.02	22 19	17.39	18.13	18.22	16.47	12.41	14.02	13.52	13.93
September 1	19.45	22.09	17.13	18.40	18.22	16.26	12.21	13.65	14.00	13.89
October 1	18.41	21.58	16.81	18.70	18.32	15.93	12.34	12.46	14.45	13.55
November 1	18.20	20.58	16.72	18 05	17.84	15.41	12.32	13.04	14.30	11.92
December 1	18.45	20 10	16.71	18.39	17.51	14.96	12.89	12.96	14.17	12.43
Average	19 92	20.92	18.01	17.63	17.91	16.33	13 09	13.30	12.76	13.60

COMPARISON OF NET SERVICE STATION PRICES JANUARY 1, 1934 AND 1935, ACCORDING TO GEOGRAPHIC GROUPINGS

Atlantic and New England States

	1934	1935
Portland, Me.	13.7	13.0
Manchester, N. H.	14.7	9.0
Burlington, Vt.	15.3	14.5
Hartford, Conn.	13.9	12.5
Springfield, Mass.	14.1	12.0
New York, N. Y.	13.5	12.0
Philadelphia, Pa.	12.0	12.0
Providence, R. I.	12.5	12.0
Newark, N. J.	13.5	11.7
Baltimore, Md.	13.3	12.5
Dover, Del.	13.5	12.5
Average	13.6	12.2

Central

	1934	1935
Fargo, N. D.	15.6	13.7
Huron, S. D.	14.9	13.2
Wichita, Kans.	11.6	11.2
Omaha, Neb.	14.3	13.9
Tulsa, Okla.	13.0	12.0
Dallas, Tex.	14.0	11.0
Little Rock, Ark.	12.9	11.5
Kansas City, Mo.	12.7	11.6
Des Moines, Iowa	13.6	12.1
Duluth, Minn.	14.2	13.0
Milwaukee, Wis.	13.2	12.8
Chicago, Ill.	13.3	10.3
Detroit, Mich.	13.5	13.0
Indianapolis, Ind.	13.7	13.1
Cleveland, Ohio	13.5	12.5
Average	13.6	12.3

Southeastern

	1934	1935
Norfolk, Va.	12.3	12.5
Charleston, W. Va.	14.2	13.5
Louisville, Ky.	13.5	10.5
Memphis, Tenn.	13.0	12.5
Atlanta, Ga.	14.0	14.0
Charlotte, N. C.	14.5	12.0
Charleston, S. C.	13.4	11.7
Jackson, Miss.	14.5	13.5
Birmingham, Ala.	15.5	13.5
New Orleans, La.	12.5	11.0
Jacksonville, Fla.	13.5	12.0
Average	13.7	12.4

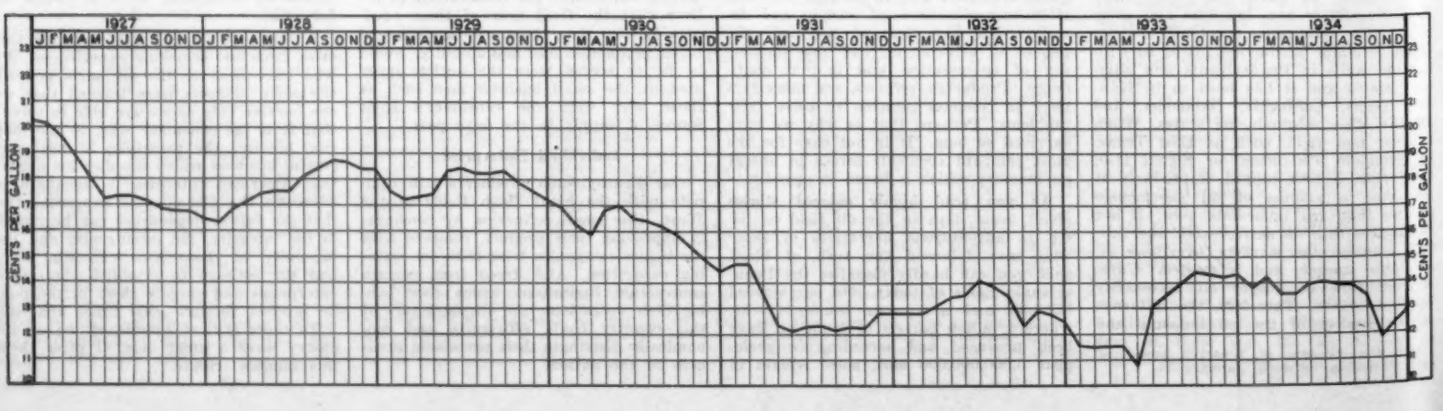
Midwestern

	1934	1935
Helena, Mont.	18.5	19.0
Boise, Idaho	19.0	18 5
Casper, Wyo.	16.5	15.0
Reno, Nev.	18.0	16.0
Salt Lake City, Utah	19.0	16.0
Denver, Colo.	16.0	15.0
Phoenix, Ariz.	15.5	11.0
Albuquerque, N. Mex.	15.0	13.0
Average	17.2	15.4

Western Coast

	1934	1935
San Francisco, Calif.	15.5	14.5
Portland, Ore.	16.0	15.0
Seattle, Wash.	16.0	15.0
Average	15.8	14 8

Trend of Gasoline Service Station Prices, Exclusive of Taxes, in 50 Representative Cities Throughout the United States



We invite you to call us—station to station—whenever we can be of Service to you.

"You Can Get It from Bridgeport"

ADEQUATE SERVICE
WITHOUT EXTRAVAGANCE
Stores and Stocks in active districts of Kansas, Oklahoma and Texas

A telephone call will bring anything needed, quickly and economically

NATIONAL TUBE COMPANY
CASING — LINE PIPE — TUBING — DRILL PIPE

AMERICAN WIRE LINES
ROTARY AND CABLE

JENSEN JACKS and GEARED UNITS

BAROID and AQUAGEL DRILLING MUDS

JONES SUCKER RODS

ALLIS-CHALMERS ELECTRICAL EQUIPMENT

FITTINGS — SUPPLIES SPECIALTIES

ROCK BITS, CORE BITS, TOOL JOINTS, VALVES

BEAM HANGERS and PUMPING EQUIPMENT

BRIDGEPORT ROTARY TOOLS
DRILL COLLARS, ROTARY REAMERS, OVERSHOTS, FLOATS, ETC.

SWAN Patented UNDERREAMERS
SALES, RENTAL AND REPAIR SERVICE

BRIDGEPORT BELTING and ROTARY HOSE

CABLE TOOLS OF ALL KINDS

LINK-BELT ROTARY CHAIN

COMPLETE RENTAL TOOL SERVICE

BEST GRADES USED CASING and LINE PIPE

•We Offer A Complete Oil Field Supply Service

STORES and SALES OFFICES at

• • *Your regular Bridgeport Salesman receives full credit for all telephone orders.*

BRIDGEPORT
MACHINE COMPANY
MANUFACTURERS DISTRIBUTORS
OIL DRILLING-FISHING AND PRODUCTION EQUIPMENT
GENERAL OFFICE AND WORKS, WICHITA, KANSAS

HOUSTON · TULSA · DALLAS · OKLAHOMA CITY · PAMPA · McPHERSON · RUSSELL
AND OTHER ACTIVE MID-CONTINENT AND GULF COAST POINTS.

plan, hundreds of cars were sold (some, it was declared, to majors included in the buying group) at a half-cent or more under the "official" price, for many refiners who produced their own crude and had constructed cheap plants could sell at the lower prices at a profit. Various so-called crusades against violators proved fizzles and eventually the whole plan died in its sleep.

With all attempts at control ending in failure, complete collapse of the gasoline market seemed imminent when in November the scene underwent a revolutionary change with installation of the federal tender board. Railroads refused all interstate shipments of petroleum products unaccompanied by certification that they had been made from lawfully produced crude. Interstate movement fell almost to the vanishing point, and gasoline prices rose rapidly.

Intrastate shipments could be made still, and soon streams of trucks were rushing cheap illicit gasoline from East Texas to consuming points inside the state. Virtual elimination of the whole hot-oil problem, for the time being at least, came the next month with the setting up of a state tender board by the State Railroad Commission.

East Texas Theory Blasted

It commonly had been accepted as certain that if the East Texas menace once were removed the gasoline market would enter upon an era of activity and profit. But the passing weeks demonstrated that settlement of the East Texas muddle was not enough. If the market was to be put on a sound basis, ruinous trade practices already referred to would have to be abolished and weaknesses in regulations governing the production of crude would have to be corrected.

The end of the year and the early days of 1935 saw many of the price absurdities removed. The motorist in Peoria, Ill., was paying 4 cents more for his motor fuel. Similar return to sanity was recorded in other areas where price-cutting had made the business of selling gasoline a farce. The feeling generally prevailing was that 1935 would witness improvement in conditions affecting gasoline prices.

Gasoline Service Station Prices in Effect During 1934, Exclusive of Taxes, in 50 Representative Cities, With Price Changes and Dates

GASOLINE TAXES IN EFFECT JANUARY 1, 1934, AND JANUARY 1, 1935

	Price Jan. 1 1934	Price changes in first six months												Price changes in second six months										Price Jan. 1 1935	Fed. and state taxes
Birmingham, Ala.	15.5	....	....	....	....	....	....	....	....	....	....	....	....	7/12 14.0	7/14 12.5	7/16 12.0	7/20 14.0	8/3 13.0	10/24 13.0	12/21 13.5	....	....	....	....	13.5	8.0
Phoenix, Ariz.	16.5	6/26 17.5	....	....	....	....	....	....	....	....	....	....	....	7/2 16.0	8/31 16 5	9/1 16.0	11/5 13.0	12/23 11.0	....	....	....	....	....	....	11.0	6.0
Little Rock, Ark.	12.9	1/4 13.4	1/8 12.1	3/8 11.0	5/2 12.0	5/9 13.1	5/31 13.6	6/9 12.5	6/17 8.5	....	....	....	....	7/18 11.0	8/22 13.5	10/14 9.5	10/17 8.0	10/27 7.0	11/12 11.5	....	....	....	....	....	11.5	7.5
San Francisco, Calif.	16.5	3/10 12.5	3/22 11.0	5/23 13.0	6/26 15.5	....	....	....	....	....	....	....	....	8/31 14.5	....	....	....	....	....	....	....	....	....	....	14.5	4.0
Denver, Colo.	16 0	3/14 14.0	3/31 11.0	....	....	....	....	....	....	....	....	....	....	8/15 15.0	....	....	....	....	....	....	....	....	....	....	15.0	5.0
Hartford, Conn.	13.9	1/9 12.9	2/9 13.4	5/19 14.4	6/15 14.0	....	....	....	....	....	....	....	....	9/13 13.0	10/26 12.0	10/27 11.0	10/29 10 0	11/6 12.5	....	....	....	....	....	....	12 5	3.0
Dover, Del.	13.5	4/4 13 0	5/9 13.5	5/22 14.0	....	....	....	....	....	....	....	....	....	10/12 13.0	10/19 11.5	10/22 11.0	12/14 12.5	....	....	....	....	....	....	....	12.5	4.0
Jacksonville, Fla.	13.5	4/16 14.0	....	....	....	....	....	....	....	....	....	....	....	8/1 13.0	8/3 12.0	9/24 13.0	9/27 12.0	....	....	....	....	....	....	....	12.0	8.0
Atlanta, Ga.	14.0	3/24 13.5	3/28 13 0	3/31 14.5	4/16 15.0	....	....	....	....	....	....	....	....	10/20 12.5	10/21 11.5	10/23 9.0	10/30 8.5	11/20 9.0	12/17 14 0	....	....	....	....	....	14.0	7.0
Boise, Idaho	19.0	3/18 13.5	4/13 18.0	....	....	....	....	....	....	....	....	....	....	7/12 18.5	....	....	....	....	....	....	....	....	....	....	18.5	6.0
Peoria, Ill.	13.7	2/23 14 7	3/14 13.7	6/19 9.9	....	....	....	....	....	....	....	....	....	8/14 13.5	10/5 11.7	10/8 10.7	10/12 9.0	10/16 7.0	10/17 6.0	11/14 7.5	12/13 5.5	12/18 9.5	....	....	9.5	4.0
Chicago, Ill.	13.3	2/23 14.3	3/29 13.8	4/17 11.8	6/4 14.3	6/5 13.2	6/7 12.3	6/13 11.3	....	....	....	....	....	7/5 13.3	9/11 12.8	10/4 11 5	10/6 10.3	10/11 9.3	10/17 8.8	11/24 10.8	....	....	....	....	10 3	4.0
Indianapolis, Ind.	13.7	2/23 14.9	6/16 14.4	....	....	....	....	....	....	....	....	....	....	9/11 13.4	10/20 13.1	....	....	....	....	....	....	....	....	....	13.1	5.0
Des Moines, Iowa	13 6	2/23 14.6	4/19 12.5	4/21 10.9	4/25 9.9	5/22 14.6	6/19 13.1	....	....	....	....	....	....	9/11 12.4	10/20 12.1	....	....	....	....	....	....	....	....	....	12.1	4.0
Wichita, Kans.	11.6	2/23 12 6	....	....	....	....	....	....	....	....	....	....	....	9/11 11.5	10/20 11.2	....	....	....	....	....	....	....	....	....	11.2	4.0
Louisville, Ky.	13.5	4/16 14.0	....	....	....	....	....	....	....	....	....	....	....	10/24 9.5	11/14 12.0	11/17 11.5	12/12 10.5	....	....	....	....	....	....	....	10.5	6.0
New Orleans, La.	12 5	1/4 10.0 3/25 9.0	1/7 9.0 4/7 7.5	1/13 8.0 4/18 11.5	1/17 10.5 4/26 9.5	2/5 11 5 5/18 8.5	2/17 10.5 5/25 9.5	2/23 9.0 6/22 8.0	2/26 8.0	3/1 11.5	3/22 11.0	3/28 10.5	3/24 9.5	8/15 13.0	10/11 11.3	10/13 8.5	10/14 7.5	10/16 6.5	11/12 11.0	11/15 9.5	11/16 9.0	11/17 8.5	11/24 11.0	....	11.0	*8.0
Portland, Me.	13.7	1/9 12.7	2/9 13.2	5/18 14.2	....	....	....	....	....	....	....	....	....	9/11 11.0	9/25 13.5	10/12 13.0	....	....	....	....	....	....	....	....	13.0	5.0
Baltimore, Md.	13.3	1/8 12.1	5/12 12.6	5/22 13.1	5/31 13.6	....	....	....	....	....	....	....	....	10/11 11.6	10/12 9.5	10/15 9.0	10/18 8.5	10/23 8.0	11/14 12.5	....	....	....	....	....	12.5	5.0
Springfield, Mass.	14.1	1/9 13.1	2/9 13.6	3/30 13.1	4/7 12.5	5/19 13.5	....	....	....	....	....	....	....	9/12 13.0	10/10 9.0	10/11 8.5	10/13 8.0	10/29 7.5	11/6 12.5	12/14 12.0	....	....	....	....	12.0	4.0
Detroit, Mich.	13.5	2/23 15 0	6/22 14 0	....	....	....	....	....	....	....	....	....	....	10/8 13.0	....	....	....	....	....	....	....	....	....	....	13.0	4.0
Duluth, Minn.	14.2	2/23 15.2	....	....	....	....	....	....	....	....	....	....	....	9/11 13.3	10/11 13.0	....	....	....	....	....	....	....	....	....	13.0	4.0
Minneapolis, Minn.	13.9	....	....	....	....	....	....	....	....	....	....	....	....	7/6 12.9	9/11 13.0	10/9 12.0	10/12 9.4	....	....	....	....	....	....	....	9.4	4.0
Jackson, Miss.	14.5	1/6 13.5	4/16 15.0	4/26 14.5	....	....	....	....	....	....	....	....	....	8/2 14.0	8/7 13 5	10/5 9.5	10/10 13.5	10/24 12.5	12/21 13.5	....	....	....	....	....	13.5	7.0
Kansas City, Mo.	12.7	2/23 13.7	5/5 11.0	....	....	....	....	....	....	....	....	....	....	9/11 11.9	10/20 11.0	....	....	....	....	....	....	....	....	....	11.6	*4.0
Helena, Mont.	18.5	....	....	....	....	....	....	....	....	....	....	....	....	7/16 19.0	....	....	....	....	....	....	....	....	....	....	19.0	6.0
Omaha, Neb.	14.3	6/6 14.0	....	....	....	....	....	....	....	....	....	....	....	8/13 14.0	13.0	13.4	12.9	....	....	....	....	....	....	....	12.9	5.0
Reno, Nev.	18.0	4/5 18.0	4/13 16.5	5/23 17.5	....	....	....	....	....	....	....	....	....	7/10 17.0	8/31 10.5	10/15 16.0	....	....	....	....	....	....	....	....	16.0	5.0
Newark, N. J.	13.5	1/8 12 3	1/10 11.5	2/13 12.0	5/12 12.8	5/22 13.3	5/31 13.8	....	....	....	....	....	....	10/11 11.8	10/12 10.4	10/13 9.4	10/16 8.4	10/18 7.4	10/20 6.9	10/22 6.4	10/23 5.9	12/4 6.9	12/5 8.4	12/1 11.7	11.7	4.0
Albuquerque, N. M.	15.0	3/30 14.5	....	....	....	....	....	....	....	....	....	....	....	7/9 13.0	....	....	....	....	....	....	....	....	....	....	13.0	*7.0
New York, N. Y.	13.5	1/9 12.5	2/9 13.0	3/22 11.5	5/11 12.5	5/18 13.5	....	....	....	....	....	....	....	11/8 13.0	12/13 12.0	12/14 11.5	12/21 12.0	....	....	....	....	....	....	....	12.0	4.0
Charlotte, N. C.	14.5	1/4 15.5	1/8 14.4	1/22 14.0	5/12 14.9	5/18 15.4	5/31 15.9	6/2 15.5	6/4 15.0	6/15 15.5	....	....	....	7/17 15.4	9/11 15.0	10/11 13.9	10/13 13.5	11/5 11.9	11/10 12.0	....	....	....	....	....	12.0	7.0
Fargo, N. D.	15 6	2/23 15 0	....	....	....	....	....	....	....	....	....	....	....	9/11 14.0	10/20 13.7	....	....	....	....	....	....	....	....	....	13.7	4.0
Cleveland, Ohio	13.5	5/4 14.0	5/9 14.5	....	....	....	....	....	....	....	....	....	....	7/25 13 0	8/29 12.5	10/13 12.0	10/20 12.5	....	....	....	....	....	....	....	12.5	5.0
Tulsa, Okla.	13.0	1/4 14.0	1/9 13.0	....	....	....	....	....	....	....	....	....	....	11/27 12.0	....	....	....	....	....	....	....	....	....	....	12.0	5.0
Portland, Ore.	16.0	....	....	....	....	....	....	....	....	....	....	....	....	8/31 15.0	....	....	....	....	....	....	....	....	....	....	15.0	6.0
Philadelphia, Pa.	12.0	2/21 12.5	5/9 13.0	5/22 13.5	....	....	....	....	....	....	....	....	....	10/12 12.5 11/11 10.5	10/19 11.5 12/14 12.0	10/20 10.5	10/23 9.5	10/24 9.0	10/26 8.0	10/27 7.5	11/16 10.5	11/17 9.0	11/19 7.5	12/6 6.9	12.0	4.0
Providence, R. I.	13.5	1/9 12.5	2/9 13.0	3/1 12 5	3/28 11.5	4/9 11.0	5/9 10.5	5/19 11.5	5/24 12 5	6/29 11 5	....	....	....	7/14 10.0	8/13 12.0	8/24 11.0	10/3 9.5	10/6 9.0	10/8 8 5	11/6 12.0	....	....	....	....	12.0	2.0
Charleston, S. C.	13.4	1/8 12.2	5/12 12.7	5/18 13.2	5/31 13.7	....	....	....	....	....	....	....	....	10/11 11.7	....	....	....	....	....	....	....	....	....	....	11.7	7.0
Huron, S. D.	14.9	2/23 15.8	....	....	....	....	....	....	....	....	....	....	....	9/11 13.5	10/20 13.2	....	....	....	....	....	....	....	....	....	13.2	5.0
Memphis, Tenn.	13.0	1/30 11.0	2/3 9.0	2/11 13.0	4/22 12.0	5/12 9.5	5/15 8.0	6/25 10.5	....	....	....	....	....	7/10 13.5	8/29 14.5	10/11 12.6	10/13 12.1	10/14 11.6	10/15 11.1	10/17 10.6	10/19 10.1	10/20 7.4	10/22 12.5	....	12.5	3.0
Dallas, Tex.	14.0	....	....	....	....	....	....	....	....	....	....	....	....	8/10 11.0	10/6 7.0	10/15 11.0	10/22 6.0	10/29 13.0	11/8 8.0	12/12 10.0	12/28 11.0	....	....	....	11.0	5.0
Salt Lake City, Utah	19.0	3/28 18 0	4/6 16.5	4/7 15.5	4/9 14.5	4/10 13.5	4/13 18.0	....	....	....	....	....	....	7/8 15.0	7/13 16.0	7/30 14 0	8/31 13.0	10/3 16.0	11/27 18.0	12/31 16.0	....	....	....	....	16.0	5.0
Burlington, Vt.	15.2	1/9 14.8	2/9 14.8	5/18 15.8	....	....	....	....	....	....	....	....	....	9/5 15.0	10/22 14.5	....	....	....	....	....	....	....	....	....	14.5	5.0
Norfolk, Va.	12.3	1/8 12.2	1/11 11.5	1/13 11.0	1/29 10 5	1/30 10.0	1/31 9.5	3/16 9.0	3/18 8.5	4/16 12.2	5/12 12.7	5/18 13.2	5/31 13.7	10/11 11.7	10/12 11.2	10/14 10.7	10/15 9.7	10/16 8.7	11/13 12.5	....	....	....	....	....	12.5	6.0
Washington, D. C.	12.0	1/4 13.5 2/20 12.3	1/8 12 3 4/6 11.5	1/9 11.0 5/16 12.8	3/10 10.0 5/18 13.3	1/15 12.0 5/31 13.8	1/22 12.0	1/25 11.5	1/27 11.0	1/29 10.5	2/1 10.0	2/2 9.5	2/5 9.0	8/16 10.0	8/10 9.0	8/31 12.5	10/11 11.8	10/13 11.3	10/16 10.5	10/22 10.0	10/23 9.5	10/31 8.5	11/14 12.5	....	12.5	3.0
Charleston, W. Va.	14.2	1/8 13.0	5/12 13.5	5/18 14.0	5/31 14.5	....	....	....	....	....	....	....	....	10/11 12.5	11/12 13.5	....	....	....	....	....	....	....	....	....	13.5	5.0
Milwaukee, Wis.	13.2	2/25 14.1	3/23 12.1	4/14 11.5	4/17 10.8	5/29 14.1	....	....	....	....	....	....	....	9/11 9.4	10/15 11.6	11/29 12.8	....	....	....	....	....	....	....	....	12.8	5.0
Casper, Wyo.	16.5	3/28 15.0	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	15.0	5.0
Seattle, Wash.	16 0	3/16 14.0	3/20 12.0	4/7 10.0	4/23 12.5	5/9 16.0	....	....	....	....	....	....	....	8/31 15.0	....	....	....	....	....	....	....	....	....	....	15.0	6.0
Average price	14.07	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	12 82	....

*Includes city or parish tax.

Tapered Roller
TIMKEN BEARING
EQUIPPED

A DISTINGUISHING MARK

of Profitable Oil Field Equipment

When buying oil field equipment of any type it will pay you to check up on the bearings. They may make all the difference between dependability and undependability . . . between long machine life and short life . . . between economical operation and expensive operation . . . between high maintenance costs and low maintenance costs.

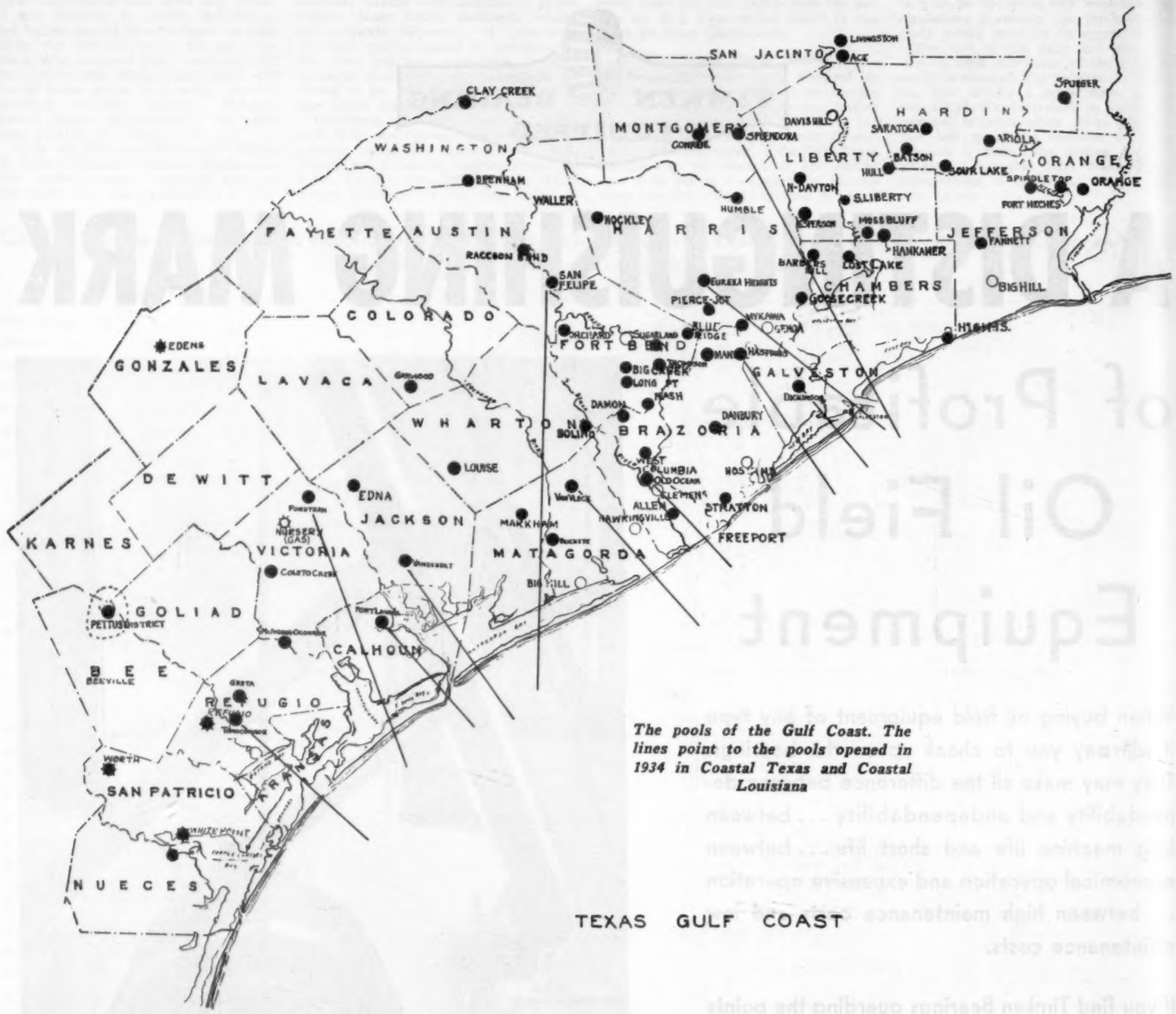
If you find Timken Bearings guarding the points of friction and heavy duty you can be assured of profitable service—not only because Timkens eliminate friction and wear; safely carry radial, thrust and combined loads; and hold moving parts in correct and constant alignment; but also because their presence proves that the manufacturer has built quality into every part of his equipment. When you specify Timken-equipped, you get endurance plus.

« « » »

Dodge-Timken Bearing Unit on pumping power equipment in the Texas oil field.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

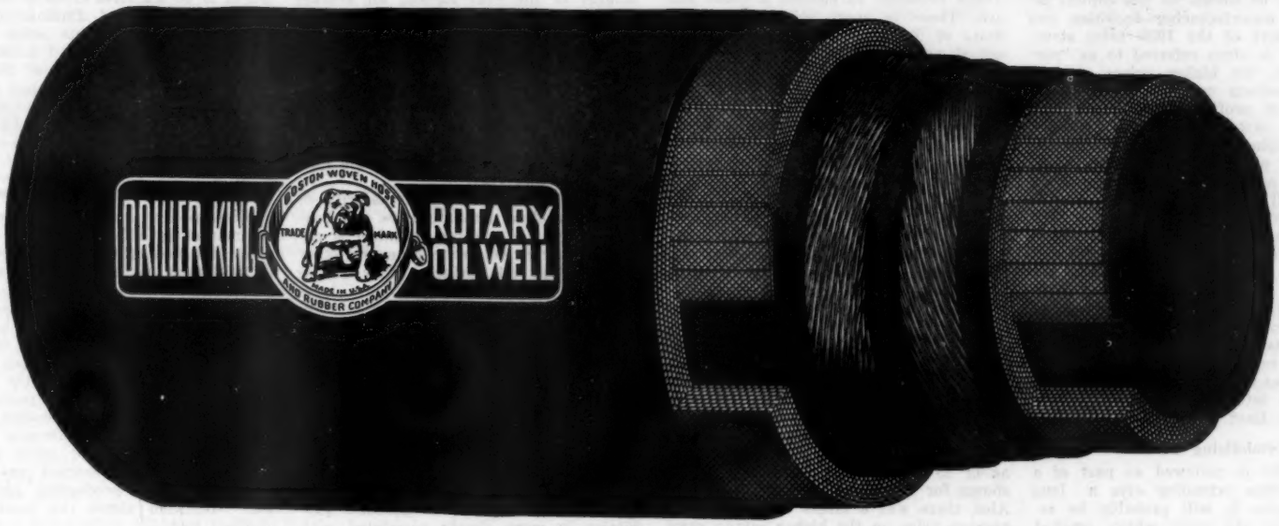
TIMKEN TAPERED ROLLER BEARINGS



The pools of the Gulf Coast. The lines point to the pools opened in 1934 in Coastal Texas and Coastal Louisiana

TEXAS GULF COAST

B.W.H.
ROTARY OIL HOSE



TEST PRESSURE: 6,000 LBS.

TEST PRESSURE: 4,000 LBS.

● **The construction of Driller King and Bull Dog Rotary Oil Well Hose is an engineering job. Note how the entire structure of duck, rubber and steel wire is mathematically calculated and scientifically coordinated. Our specialization in Oil Field Mechanical Rubber Goods has developed products of proved quality which are sold through leading distributors in every field.**

BOSTON WOVEN HOSE & RUBBER CO.

Makers of quality Rubber Goods for more than 50 years

Works: Cambridge, Mass., U. S. A. *Postal Address:* Box 1071, Boston, Mass., U. S. A.

Better Average Refined Oil Prices During 1934 Reflected Stabilization of the Crude Market

By W. T. ZIEGENHAIN

Generally speaking, refined oil prices were higher in 1934 than in the previous year. This movement was in a favorable direction but the improvement was far short of that needed to permit a profit to be shown on the capital invested in manufacturing facilities and was far short of the 1926 price structure which is often referred to as "normal." Also, the higher prices received for the products can not be taken as an index of profits since the average cost of the raw materials was higher.

For example, the Mid-Continent refiner received 17 per cent more for his U. S. Motor low octane gasoline than in 1933 but paid 61 per cent more for the 36 gravity crude which he processed. The California refiner did much better and was able to get approximately 20 per cent more for his gasoline while the crude cost increased only 12 per cent. Refiners in other areas showed results between these two extremes. California refiners benefitted most because they were able to operate rather independently whereas refiners east of the Rockies were forced into competition with products of the East Texas Field.

Stabilizing Period

When 1934 is reviewed as part of a study of prices extending over a long period of time it will probably be referred to as the year which marked the turn in the long trend downward of refinery prices and the beginning of a period of price stabilization. The latter may be assumed now because it is becoming more evident that crude prices will continues to be stabilized. Fortunately or unfortunately the refinery market usually reflects the crude market.

The assumption that refinery prices will be stabilized within relatively narrow limits is based entirely upon the belief expressed by students of the industry that in the future oil producers will not re-enter into a wild scramble to develop newly proved fields but will continue to recognize proration orders regardless of the ultimate action of the courts in their interpretation of the oil code.

The production division of the industry has seen the benefits of holding down production to actual needs and its realize that the dollar-per-barrel price for Mid-Continent crude, which extended throughout 1934, would not have been maintained otherwise.

Also, as we go further into 1935 East Texas promises to become a lesser hazard. There is every evidence that the State of Texas will hold production to actual needs and each day that passes means that that much less oil is left in the field. Although a large quantity of oil still remains in the East Texas area, and will continue to be produced without artificial means throughout 1935, there is no general evidence that producers want the rate changed.

As East Texas is brought firmly under controll, and a general business recovery becomes apparent there is every reason to believe that 1935 will bring better average prices for refined products and the upward trend which started in 1934 will continue through this year.

Refinery Gasoline Prices

The average gasoline price in the Mid-Continent for 58-60 motor of low octane is shown as $.0363 and compares with the average of $.0311 for 1933. This is a relatively small advance to show for the principle products but it is encouraging to note that greater gains were shown for the other important products. Also, there was a larger increase in the average price on the higher octane gasolines than is shown for the grade quoted above.

Changes in price classifications on gasolines during the past year make it difficult to make direct comparisons, however the extent of the benefits may be judged by noting that the 60-64 octane motor grade brought an average of $.0363 in 1934 and in 1934 the 63-70 octane grade is quoted as $.0444. This indicates a greater difference than actually existed for the group however, since an intermediate classification was quoted in 1933, namely, one including all gasolines of 65 octane and higher. The average price shown on the latter grade was $.0399 in 1933.

Natural Gasoline

Natural gasoline prices did not do as well as refinery gasoline prices. Natural prices showed a lower average in 1934 than in 1933 and was the only important product that suffered this added penalty. During the first six months of 1934 26-70 natural gasoline sold for an average of $.0224 and in the last six months of the year showed an average quotation of $.0295. The average for the year was $.0260 compared with $.0290 for 1933.

The improvement shown in the latter half of 1934 became most pronounced in the last month of the year and the strong market is being carried over into 1935. Every indication points to a relatively strong market for natural gasoline during the coming year.

This belief is held by a majority of natural gasoline manufacturers and buyers as well and greater optimism is apparent among that group than any other group in the oil business. They realize the limitations placed upon them however, by reason of the fact that refiners have a habit of curtailing purchases whenever the price differential between natural and U. S. Motor tend to coincide. Apparently the group is thinking in terms of a 1-cent average differential throughout the year, however most of them say this would be satisfactory. They point to the fact that refinery U. S. Motor is likely to show a higher average price.

In California, natural gasoline production is more closely correlated with refinery demands and prices there were generally higher than in the Mid-Continent.

Retail Gasoline Market

Before discussing the market for other products the trend of the retail gasoline will be reviewed since it influences refinery prices. It will be remembered that in 1933 the average filling station price for gasoline reached an all-time low in the early part of May. Then as a direct result of the anticipated benefits to be received from the oil code, retail prices climbed rapidly to a peak for the year in August. Since that month, the average has fallen off and near the first of November, 1934, came within 1 cent of the all time low.

Since then the various marketing stabilization committees have been busy adjusting prices at points where the market was abnormally low and the result of the work has permitted a 1-cent recovery in the average of prices over the country. These data are based upon The Oil & Gas Journal's survey of retail prices in 50 scattered cities in the United States, the detailed findings being included elsewhere in this issue.

The fact that the retail market failed to break through the low of 1933 when the scare came in November and December that the oil code could not be enforced indicates that a definite turn upward is in progress, for refined oil prices generally.

Kerosene and Distillates

Kerosene and distillates enjoyed a better market in 1934 and closed the year above the average for the period. Early in 1934 some concern was shown regarding these markets because export business offered no relief and it was known that the rate of installing household oil burners had temporarily decreased. Competition offered by cheaper natural gas also tended to dampen the enthusiasm for oil burners in important consuming centers in the mid-west, particularly around Chicago. Despite the various handicaps placed upon kerosene and burner oils the market was able to absorb a higher production and prices were stabilized above the level of the previous year.

Fuel Oils

The heavier fuel oils reflected the stabilized crude market to a greater extent than the balance of the fuel list. In each important refining area the 1934 average price for fuel oil was substantially above the average of 1933. Bunker C. oil in the New York harbor brought an average of $.8625 per bbl. in 1933 while in 1934 the average rose to $1.242. In California Diesel fuel of 27 gravity went from $.8406 per bbl. in 1933 as an average price of $1.032 in 1934.

In the Mid-Continent where continued competition was felt from East Texas, the average 1934 price for low gravity fuel oil went from an average of $.3899 a barrel in 1933 to $.5930 a bbl. during 1934. The year closed with prices firm and the new year has started with

(Continued on Page 52)

Average Yearly Published Prices on Most Important Refinery Products, 1925 Through 1934

OKLAHOMA

(Price in tank car at plant)

	1934	1933	1932	1931	1930	1929	1928	1927	1926	1925
58-60 U. S. Motor gasoline, per gal. (below 60 octane)	$.0363	$.0311	$.0392	$.0345	$.0634	$.0775	$.0795	$.0667	$.1031	$.1055
Natural gasoline, 26-70 (AA grade), per gal.	.0260	.0290	.0222	.03	.0524	.0683	.0734	.0575	.0946	.1202
41-43 water white kerosene, per gal.	.0322	.0279	.0315	.0231	.0358	.0517	.0517	.0461	.0727	.0445
24-26 fuel oil, per bbl.	.7307	.5048	.4548	.4356	.7043	.706	.7694	.9792	1.3072	1.0908
32-36 U.G.I. gas oil, per gal.	.0201	.0146	.0146	.0127	.0227	.0265	.0247	.0299	.0419	.0368
200 vis. neutral, 3 color, per gal. (15-30 cold test)	.0994	.0845	.0834	.0924	.1059	.0966	.0947	.1032	.1072	.1139
124-126 wax, per lb.	.0346	.0253	.0170	.0174	.0216	.0321	.0394	.0294	.0471	.0516
150-160 D color bright stock, per gal.	.2030	.1852	.1837	.1631	.2977	.3368	.2310	....	....	....
Crude (36 A.P.I. gravity), per bbl.	**1.00**	**.62**	**.88**	**.63**	**1.23**	**1.37**	**1.31**	**1.38**	**2.13**	**1.87**

CALIFORNIA

	1934	1933	1932	1931	1930	1929	1928	1927	1926	1925
U. S. Motor gasoline, per gal. (low octane)	$.0624	$.0523	$.0546	$.0510	$.0806	$.0849	$.0919	$.0873	$.1134	....
Natural gasoline, 75-85, 390 e.p., per gal.	.0575	.0462	.0447	.0418	.0712	.0803	.0726	.093	.1465	....
38-40 kerosene, per gal.	.0458	.0384	.7432	.7510	.8365	.9000	1.1500	1.1500	....	....
27 plus Diesel	1.0320	.8406	.7432	.7510	.8365	.9000	1.1500	1.1500	....	....
Crude (25 A.P.I. gravity, Signal Hill), per bbl.	**.94**	**.84**	**.83**	**.76**	**1.16**	**1.03**	**.96**	**1.00**	**1.37**	**1.35**

PENNSYLVANIA

	1934	1933	1932	1931	1930	1929	1928	1927	1926	1925
58-60 U. S. Motor gasoline, per gal. (below 60 octane)	$.0519	$.0505	$.0568	$.049	$.0737	$.0905	$.0982	$.09	$.1273	$.1348
45 water white kerosene, per gal.	.0448	.0446	.0451	.04	.0501	.0651	.0635	.0646	.0885	.0656
Bright stock, 10-15 pour test, per gal.	.2540	.2407	.2466	.2094	.3373	.4745	.3186	.3326	.3954	.3824
Crude (in National Transit Lines), per bbl	**2.47**	**1.86**	**1.88**	**1.81**	**2.55**	**3.69**	**2.98**	**2.87**	**3.51**	**3.50**

Average Domestic and Export Refined Oil Prices Over the Past Three Years

(QUOTATIONS F.O.B. PLANTS AND TERMINALS)

	1934					1933					1932				
	Av. pr. for yr.	High	Low	1st 6 mos.	2nd 6 mos.	Av. pr. for yr.	High	Low	1st 6 mos.	2nd 6 mos.	Av. pr. for yr.	High	Low	1st 6 mos.	2nd 6 mos.
GASOLINES—															
Oklahoma (Group 3):															
U. S. Motor grades:															
Regular, 63-70 octane*	.0444	.04¾	.03⅝	.0447	.0440	.0363	.05½	.02⅛	.0257	.0469	....	....	....	....	....
Premium, 65 octane and above*	....	....	....	.0483	....	.0399	.06	.02⅝	.0282	.0516	....	....	....	....	....
Third grade, below 63 octane*	.0363	.04¼	.02½	.0370	.0355	.0311	.05	.01⅞	.0227	.0395	.0392	.05	.02½	.0381	.0403
60-62 400 (no octane rating)	.0372	.04⅜	.02⅝	.0384	.0359	.0328	.05	.02	.0244	.0411	.0411	.05⅛	.02⅜	.0399	.0422
64-66 375	.0410	.04½	.03½	.0421	.0399	.0370	.05⅜	.02¼	.0269	.0471	.0444	.05⅝	.02¾	.0434	.0454
North Texas:															
U. S. Motor, below 63 octane*	.0361	.04⅛	.02¾	.0365	.0356	.0303	.04¾	.01⅞	.0221	.0385	.0384	.04⅞	.02⅝	.0374	.0393
64-66 375	.0403	.04⅝	.03⅜	.0418	.0387	.0370	.05¼	.02¼	.0269	.0471	.0436	.05¼	.03⅝	.0429	.0444
Pennsylvania:															
U. S. Motor	.0519	.05¾	.04½	.0510	.0528	.0505	.05¾	.04¼	.0469	.0541	.0568	.06⅞	.04	.0511	.0626
California:															
54-58, U. S. Motor	.0624	.08	.04	.0555	.0692	.0523	.08	.04	.0497	.0549	.0546	.06¼	.04¼	.0498	.0593
New York (Bayonne, N. J.):															
U. S. Motor, below 65 octane	.0588	.06¼	.05½	.0591	.0585	.0554	.06¼	.04	.0503	.0605	.0643	.08	.05½	.0605	.0682
65 octane and above	.0613	.06½	.05¾	.0616	.0610	.0557	.069	.04½	.0529	.0624	....	....	....	....	....
Gulf Coast (domestic):															
U. S. Motor, below 65 octane	.0505	.05⅞	.04¼	.0514	.0495	.0420	.05¾	.03	.0338	.0501	....	....	....	....	....
U. S. Motor, 65 octane and above	.0536	.06	.05	.0544	.0528	.0473	.06	.03½	.0396	.0550	....	....	....	....	....
NAPHTHAS—															
Chicago:															
Stoddard solvent, 300 i.b.p.-410 e.p.	.0614	.06¼	.05½	.0602	.0625	.0536	.06⅜	.04¼	.0491	.0580	....	....	....	....	....
NATURAL GASOLINES—															
Oklahoma (Group 3):															
26-70	.0260	.03¾	.01¼	.0224	.0295	.0290	.05¼	.01	.0172	.0408	.0222	.03	.01¾	.0190	.0254
18-55	.0318	.04⅜	.01¾	.0275	.0361	.0349	.06⅜	.01¼	.0214	.0483	.0279	.04	.01¾	.0233	.0325
California:															
75-85 375	.0575	.06½	.04½	.0515	.0635	.0462	.06½	.03½	.0388	.0535	.0447	.05¼	.03¾	.0444	.045
KEROSENE—															
Oklahoma (Group 3):															
41-43 water white	.0322	.03⅝	.03	.0330	.0314	.0279	.03½	.02¼	.0257	.0300	.0315	.04¼	.02⅜	.0317	.0313
North Texas:															
41-43 water white	.0310	.03½	.02⅞	.0313	.0307	.0269	.03¼	.02⅛	.0247	.0291	.0309	.04¼	.02⅜	.0314	.0303
Pennsylvania:															
45 water white	.0448	.05⅜	.04	.0451	.0445	.0446	.05¼	.04	.0439	.0452	.0451	.05	.04	.0442	.0459
California:															
38-40 high burning test	.0458	.04¾	.04¼	.0441	.0475	.0384	.04¼	.03½	.0358	.0410	.0398	.04½	.03¾	.0392	.0404
New York (Bayonne, N. J.):															
41-43 water white	.0529	.05¾	.05	.0540	.0518	.0522	.05½	.04¾	.0522	.0522	....	....	....	....	....
Gulf Coast:															
41-43 water white	.0440	.04¾	.04¼	.0449	.0449	.0408	.04½	.03¾	.0393	.0423	....	....	....	....	....
FURNACE OILS AND TRACTOR FUELS—															
Oklahoma (Group 3):															
32-36 straw zero	.0268	.03⅛	.02⅜	.0268	.0267	.0232	.03	.01⅝	.0206	.0258	.0218	.03⅛	.01⅝	.0179	.0256
38-40 straw	.0273	.03¼	.02½	.0277	.0268	.0237	.03	.01⅝	.0218	.0256	.02⅜	.03⅜	.01¾	.0198	.0277
38-40 prime white	.0292	.03⅜	.02½	.0289	.0294	.0246	.03¼	.01¾	.0223	.0269	.0258	.03⅜	.02	.0223	.0293
New York (Bayonne, N. J.):															
36-40	.0527	.05½	.05	.0536	.0517	.0515	.05½	.05	.05	.0530	.0472	.05	.03¾	.0453	.0492
21 (Industrial)	.0436	.04¾	.04	.0417	.0454	.0370	.04	.03½	.035	.0379	....	....	....	....	....
GAS OIL, DIESEL OIL AND FUEL OIL—															
Oklahoma (Group 3):															
U.G.I. gas oil	.0201	.02⅜	.01¼	.0214	.0187	.0146	.02⅛	.00⅞	.0116	.0176	.0146	.02⅛	.01	.0122	.0171
Below 16	.5930	.62½	.50	.5750	.6100	.3899	.50	.27½	.3298	.4500	.3250	.45	.20	.2596	.3904
California:															
27 plus Diesel	1.032	1.10	.90	1.00	1.063	.8406	.95	.75	.8212	.8600	.7432	.85	.70	.7538	.7327
Gulf Coast:															
28-30 Diesel	1.779	1.80	1.70	1.80	1.758	1.585	1.80	1.50	1.50	1.670	....	....	....	....	....
New York (Bayonne, N. J.):															
20-30 Diesel (lighterage 6½ cents bbl.)	1.939	1.95	1.89	1.948	1.922	1.760	1.95	1.65	1.65	1.86	1.502	1.65	1.30	1.3538	1.65
Bunker C (New York Harbor)	1.242	1.30	1.15	1.258	1.225	.8625	1.20	.70	.7250	1.00	.7269	.85	.60	.6615	.7923
NEUTRAL OILS—															
Oklahoma (Group 3), zero to 10 cold test:															
200, 3 color, 15-30 cold test	.0094	.10¾	.08	.0912	.1075	.0778	.08¼	.07¼	.0733	.0822	.0778	.08¾	.07½	.0785	.0770
Pennsylvania:															
200, 3 color, 10 pour test	.291	.30½	.26	.290	.291	.1872	.26	.14	.1633	.2111	.1956	.21	.17	.1992	.1921
Gulf Coast:															
200, 3 pale oil	.0742	.07¾	.06¼	.0740	.0743	.0605	.06½	.05½	.0612	.0597	.0643	.07	.06	.0658	.0627
200, 5-6 red oil	.0665	.07¼	.06½	.0640	.0689	.0494	.05½	.04½	.0515	.0473	.0506	.06	.05	.0531	.05
California:															
200, 2½-3 pale	.1954	.23	.12½	.2300	.1608	.1177	.23	.09½	.0981	.1373	.0820	.10	.07¾	.0822	.0818
BRIGHT AND STEAM REFINED STOCKS—															
Oklahoma (Group 3):															
150-160, zero to 10, D color	.2030	.24½	.13½	.2370	.1679	.1852	.24	.12¼	.1516	.2193	.1837	.22	.15½	.1854	.1819
600 light green, S.R.	.0662	.07½	.06	.0712	.0612	.0558	.07	.04	.0462	.0653	.0462	.05	.04	.0444	.05
Pennsylvania:															
600 S.R.	.1476	.19½	.08½	.1829	.1123	.1206	.16	.07¼	.0911	.1500	.1236	.14	.09½	.127	.1202
Bright stock, 10 pour test	.2540	.30	.19½	.2900	.2179	.2407	.27½	.18	.2094	.2720	.2466	.28	.19	.2444	.2488
WAX—															
Oklahoma (Group 3)—															
124-126 (crude scale)	.0346	.03¾	.03⅛	.0365	.0322	.0253	.03¾	.01⅝	.0179	.0326	.017	.01⅞	.01⅝	.0169	.0170
New York (Bayonne, N. J.):															
120-122 (a.m.p.)	.0424	.046	.042	.0428	.0420	.0320	.043	.02⅜	.0266	.0373	.0263	.02⅞	.02⅜	.0281	.0245
EXPORT PRICES—															
Gasoline—Gulf Coast:															
U. S. Motor	.0433	.05¼	.03¾	.0455	.0410	.0421	.05⅞	.03⅛	.0344	.0497	.0452	.05	.04	.0454	.045
64-66 375	.0475	.05¾	.04¼	.0498	.0452	.0452	.06	.03¼	.0375	.0528	.0482	.05½	.04¼	.0488	.0470
Los Angeles, Calif.:															
U. S. Motor, 53-55 gr., no octane rating	.0405	.04½	.04	.0410	.0400	.0401	.04½	.03¾	.0375	.0427	.0381	.04¼	.03¾	.0387	.0375
U. S. Motor, 65 octane	.0455	.05	.04½	.0460	.0450	.0497	.05½	.04½	.0459	.0504	.0489	....	....	.05	.0498
Lubricants—New York (f.a.s. in bbls.)															
600 S.R. unfiltered	.2153	.26	.14	.2521	.1785	.1827	.24	.13	.1540	.2114	.2111	.23	.19	.2035	.2185
Bright stock, No. 8 color	.3019	.36	.22	.3410	.2627	.2778	.33	.22½	.2438	.3119	.2971	.34	.24	.2935	.3008

*Effective August 14, Mid-Continent gasoline prices quoted on new basis: regular grade, "63-70 octane" in place of "60-64.9 octane"; third grade, "below 63 octane" in place of "below 60 octane." The Group 3 premium grade was dropped from quotations.

Slight Increase in Both Exports and Imports of Crude Oil and Refined Products During 1934

By C. O. WILLSON

There were gains in both imports and exports of crude oil and refinery products during 1934 over the previous year. Shipments of refinery products through the Panama Canal to Atlantic Seaboard points also increased in 1934.

The available statistics covering imports do not reveal any changes of special importance over the past year. The data given in Table 1 covers an 11 months compilation of the Bureau of Mines, the December figures not being available until early in February. The figures given in Table 2 were compiled by the American Petroleum Institute and cover the entire year.

The data on imports for 1934 as in 1933 show that the duties on crude oil and refinery products which became effective in 1932 have materially reduced shipments into this country for domestic consumption. Over the first 11 months of 1934 there were no imports of kerosene and lubricating oils and the gasoline imports totaled only 1,000 bbls. Imports of wax increased the early part of 1934 over the same period in 1933 but these shipments also declined later in the year in the face of a slow demand. The U.S.S.R. largely accounts for the increase in imports. The wax production of refineries in that country has materially increased over the past two years and in their search for new markets the U.S.S.R. oil administration has sold substantial quantities in both North and South America. So far as the United States is concerned these imports are of minor importance. Despite the large slump in demand in 1934 the domestic demand for wax in United States totaled 222,981,000 pounds of which 32,153,000 pounds were imported. In addition refiners in United States exported 182,525,000 pounds. These figures cover the first 11 months of 1934.

In regard to crude oil, part of imports shown, cover shipments in bond. In these cases the crude oil is refined at plants in United States and part or all of the products are re-exported. These products thus do not become a direct factor in the domestic markets of the United States. Crude oil imports averaged 91,300 bbls. daily the first 11 months of 1934 and 87,000 bbls. for the same period in 1933.

The distribution of these imports along the Atlantic Seaboard and Gulf Coast is shown in Table 2. Imports into Boston harbor materially increased in 1934 and the same situation applied in the Gulf Coast region. Imports into New York decreased in 1934 but shipments to refineries and fuel consumers located adjacent to the harbor continued to represent approximately 60 per cent of the total for the entire United States.

In 1931, the last full year before the import duties became effective imports of crude oil and refinery products to United States totaled 86,087,000 bbls. The estimated imports for 1934 based on Bureau of Mines figures, will be 48,000,000 bbls. or a decrease of 45 per cent from 1931.

Exports

The data on exports show that there is still a steady demand for crude oil and refinery products of the United States. As shown in Table 1, gasoline, lubricating oil and wax exports decreased the first 11 months of 1934 but this was more than offset from the standpoint of volume by a substantial increase in export shipments of fuel oil and gas oil and crude oil. Due to the general increases in crude oil production in countries outside the United States including the new Iraq supply, it has been expected that exports of crude from this country would materially decrease. So far this has not materialized. In fact the November, 1934, figures which are the latest available show a daily average in excess of 150,000 bbls. which is the largest average of any month in 1934.

The quality of crude oils available in the United States probably accounts for the gain in export demand despite the increased competition of low cost crudes produced in foreign countries. The bulk of the larger supplies in foreign countries are not suitable for the manufacture of kerosene and lubricating oils. These products can be manufactured from these crudes, some of which are low in gravity, and high sulphur content with an asphaltic base, but the costs are relatively high compared to crudes available in the United States. It is known that due to this situation certain European refiners have continued to purchase part of their crude supplies in United States despite the fact that lower cost crudes were available from South America, Mexico, Rumania and other countries. They use these lower priced crudes to obtain gasoline and fuel products but require the better crudes from the United States for kerosene and lubricating oils.

Iraq Crude Supply

The most important new crude supply of the year which is expected to have

(Continued on Page 52)

TABLE 1—IMPORTS AND EXPORTS OF CRUDE OIL AND REFINERY PRODUCTS FIRST 11 MONTHS OF 1934 AND 1933

(Data in barrels)

Year	Crude oil	Refinery products	Gasoline	Kerosene	Gas oil and fuel oil	Lubricants	Wax (lbs.)
Imports—							
1934	30,404,000	13,691,000	1,000	....	*3,828,000	....	*32,153,000
1933	29,017,000	12,659,000	14,000	....	*5,946,000	1,000	*28,235,000
Exports—							
1934	38,691,000	67,186,000	23,130,000	8,974,000	25,574,000	7,094,000	182,525,000
1933	33,948,000	64,190,000	27,672,000	8,091,000	18,084,000	7,494,000	228,279,000

* For domestic consumption.

TABLE 2—IMPORTS OF CRUDE OIL AND REFINERY PRODUCTS IN 1934 AT PRINCIPAL PORTS IN UNITED STATES. TOTAL FIGURES FOR 1933

(Data in barrels)

	Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast	Grand total	Crude oil	Fuel oil
January	353,000	.....	2,218,000	847,000	138,000	3,556,000	68,000	3,624,000	2,713,000	911,000
February	282,000	72,000	2,310,000	535,000	208,000	3,407,000	169,000	3,576,000	3,024,000	552,000
March	317,000	60,000	2,088,000	641,000	180,000	3,286,000	66,000	3,352,000	2,097,000	2,837,000
April	293,000	.....	2,236,000	953,000	211,000	3,693,000	205,000	3,898,000	1,255,000	1,061,000
May	315,000	.....	2,728,000	839,000	482,000	4,364,000	.....	4,364,000	3,078,000	1,286,000
June	453,000	58,000	2,797,000	725,000	488,000	4,521,000	220,000	4,741,000	3,620,000	1,121,000
July	397,000	67,000	2,717,000	432,000	83,000	3,696,000	246,000	3,942,000	2,512,000	1,430,000
August	319,000	70,000	2,422,000	506,000	218,000	3,535,000	69,000	3,604,000	2,579,000	1,025,000
September	500,000	153,000	1,972,000	825,000	324,000	3,774,000	442,000	4,465,000	2,988,000	1,228,000
October	418,000	467,000	2,301,000	700,000	98,000	3,914,000	481,000	4,216,000	2,630,000	1,772,000
November	261,000	213,000	1,795,000	656,000	243,000	3,168,000	509,000	3,677,000	2,694,000	983,000
December	173,000	435,000	1,928,000	881,000	108,000	3,525,000	964,000	4,489,000	3,121,000	1,368,000
Total, 1934	4,081,000	1,595,000	27,512,000	8,540,000	2,781,000	44,509,000	3,437,000	47,948,000	32,310,000	15,574,000
Total, first half 1934	2,013,000	1,405,000	14,377,000	4,540,000	1,707,000	22,827,000	728,000	23,555,000	15,787,000	7,768,000
Total, second half 1934	2,068,000	190,000	13,135,000	4,000,000	1,074,000	21,682,000	2,709,000	24,393,000	16,523,000	7,806,000
Total, 1933	3,112,000	927,000	29,084,000	9,814,000	2,279,000	44,289,000	805,000	45,094,000	31,534,000	13,660,000

All data derived from weekly reports of A.P.I.

TABLE 3—1934 RECEIPTS OF CALIFORNIA REFINERY PRODUCTS AT ATLANTIC PORTS

	Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast	Grand total	Gasoline	Kerosene	*Fuel oil and gas oil
January	87,000	429,000	884,000	165,000	926,000	2,491,000	.....	2,491,000	530,000	468,000	1,493,000
February	90,000	204,000	1,228,000	187,000	649,000	2,358,000	.....	2,358,000	591,000	137,000	1,630,000
March	256,000	570,000	608,000	.....	580,000	2,014,000	.....	2,014,000	220,000	204,000	1,590,000
April	183,000	463,000	742,000	464,000	591,000	2,443,000	.....	2,433,000	858,000	117,000	1,468,000
May	95,000	66,000	1,077,000	347,000	961,000	2,546,000	.....	2,546,000	635,000	159,000	1,752,000
June	140,000	276,000	875,000	463,000	542,000	2,301,000	.....	2,301,000	689,000	11,000	1,601,000
July	195,000	182,000	699,000	355,000	470,000	1,901,000	.....	1,901,000	888,000	79,000	926,000
August	155,000	138,000	710,000	354,000	482,000	1,839,000	.....	1,839,000	889,000	85,000	865,000
September	183,000	178,000	1,040,000	350,000	392,000	2,143,000	.....	2,143,000	919,000	11,000	1,205,000
October	181,000	226,000	362,000	.....	510,000	1,279,000	.....	1,279,000	514,000	79,000	686,000
November	186,000	173,000	475,000	234,000	666,000	1,734,000	.....	1,734,000	1,006,000	79,000	641,000
December	80,000	296,000	689,000	346,000	746,000	2,157,000	.....	2,157,000	871,000	197,000	1,089,000
Total, 1934	1,831,000	3,201,000	9,389,000	4,891,000	7,515,000	25,206,000	.....	25,206,000	8,610,000	1,626,000	14,946,000
Total, first half 1934	851,000	2,008,000	5,414,000	1,626,000	4,249,000	14,153,000	.....	14,153,000	3,523,000	1,096,000	9,534,000
Total, second half 1934	980,000	1,193,000	3,975,000	3,265,000	3,266,000	11,053,000	.....	11,053,000	5,087,000	530,000	5,412,000
Total, 1933	1,587,000	864,000	7,131,000	4,108,000	5,224,000	18,914,000	964,000	19,878,000	11,527,000	1,609,000	5,737,000

* In some months small quantities of lubricating oils included.

REED

ROLLER BEARING
ROCK BITS

See the New 1935
Composite Catalog
pages 735 to 770.

SPEEDY for STRAIGHT HOLE DRILLING WITH LIGHT DRILLING WEIGHTS.

RUGGED for HARD DRILLING WITH HEAVY DRILLING WEIGHTS.

REED ROLLER BIT CO.

MAIN PLANT: HOUSTON, TEXAS, U. S. A. P. O. BOX 2119

Export Office: NEW YORK, N. Y., 30 Rockefeller Plaza
London Representative's Office: LONDON, E. C. 2, COVENTRY HOUSE, South Place
Branches at
KILGORE, TEXAS
LAKE CHARLES, LA.
LOS ANGELES, CALIF. 1317 Esperanza St.
OKLAHOMA CITY, OKLA. 1120 Southeast 29th St.
Distributed Through Supply Stores Everywhere
Mid-Continent and Gulf Coast Distributors for MARTIN-DECKER PRODUCTS

NRA

The Reed Roller Bit Company is a member of the Code of Fair Competition for the American Petroleum Equipment Industry and Trade.

EVEN BETTER THAN STANDARD YELLOW STRAND

If you want a rotary drilling line even better than standard Yellow Strand, try *"Flex-Set" Preformed* Yellow Strand. Same *tested, selected* wire, same true balance of elasticity, flexibility, toughness, tensile strength —PLUS these "preformed" advantages:

Limber. Easier to handle. Costs less to install. More quickly, safely "broken in." Less internal wear. No wickering. Easier splicing. Lasts longer.

All this means *lower final cost.*

Broderick & Bascom Rope Co., St. Louis
Factories: St. Louis and Seattle.

For Prompt Service on B & B Wire Lines call on The Continental Supply Co.

Mid-Continent Distributors of Broderick & Bascom Wire Lines. Ample stocks in stores at all active fields.

NRA MEMBER U.S.
WE DO OUR PART

R-9

"Flex-Set" Preformed Yellow Strand Rotary Drilling Lines

Oil Pipe Line Construction in 1934 Consisted of Short Extensions and Gathering Facilities

No long oil pipe lines were laid in the United States in 1934 and all the work done consisted of connecting new pools with main lines not far distant, and in laying gathering lines to leases as they developed.

The vast program of main line building which lasted several years provided the Mid-Continent and Gulf Coastal regions with a great system of interstate and intrastate trunk lines from which lateral lines have been laid as new pools have been opened.

The longest line laid in Kansas last year was from Eldorado, Butler County, station of the Stanolind Pipe Line Co. to Russell County. This line had an original capacity of about 20,000 bbls. of oil daily and it looped late in the year with 10-inch line that increased its capacity to about 27,000 bbls. per day with the present pumping equipment or to about 30,000 bbls. pipe line capacity if the pumping machinery is increased to handle that amount of oil.

The Skelly Oil Co. completed a combination 6 and 8-inch line from the Burrton Pool in Reno County to the Cunningham Field in Kingman County, Kansas.

The White Eagle Oil Corp. laid a short 4-inch line from Section 6-28-1w, Sedgwick County, to a loading rack at Schultz.

A 4-inch line was laid from Chindberg and Nordling, Kansas, Pools to the McPherson refinery of the Dickey Oil & Refining Co.

Kanotex Refining Co. built a 3-inch line from Peasel oil pool northwest of Wellington, Kans., to its main line from Churchill Field north of Oxford to Kanotex refinery at Arkansas City, Kans.

Sinclair Prairie Pipe Line Co. looped its 4-inch line from Haury Field to its Wash station in Harvey County, Kansas, with 7 miles of 6-inch welded reconditioned pipe line.

In Oklahoma

The only field in Oklahoma that required the laying of much pipe line last year was the Fitts Pool in Pontotoc County. The first wells in that field were served by a 4-inch line that was laid by Oklahoma Pipe Line Co. but later taken over by the Stanolind Pipe Line Co. It handled the oil to Henry station about 8 miles north of Ada, Okla.

Late in the year new line was laid from the pool to the Pauls Valley station on the main line of the Stanolind Pipe Line Co. This consists of about 39 miles of 8-inch reconditioned pipe welded construction line, with a gravity gathering system in the Fitts Pool that delivers the oil to the Fitts station of the Stanolind Pipe Line Co.

The Fitts Pool is also served by a 20-mile 8-inch line laid by the Oklahoma Pipe Line Co. from their station in Section 34-2-7e in the field to the Francis station, Section 32-5-7e, on the main trunk line of the Oklahoma Pipe Line Co. system. This line runs nearly due north from the Fitts Field and is now supplemented by 3 miles of 8 and 1 mile of 6-inch gathering lines in the field.

Other new pools were served largely by laying gathering lines from nearby trunk lines of the major pipe line companies.

In the East Texas Field

There was little oil line activity in the East Texas Field in 1934, companies merely extending gathering lines to connect with wells as they were completed. There were 56 refineries in the field in January, 1934, and 27 built during the year to bring the total up 81, a couple of the smaller plants having been dismantled. There are 20 gasoline plants in the field. The 25 new refineries were connected, in most cases, by gathering lines, as were the gasoline plants built during the year, consequently there was considerable construction, but on a small scale.

The Stanolind Oil & Gas Co. constructed 19.1 miles of loop on its combination 8- and 10-inch main line, between the Mexia and Huffsmith Station, increasing the capacity of this line from 38,000 to 45,000 bbls. per day.

In Central and Western Texas

The Pecos Valley Pool, in northern Pecos County, gained an outlet during the year when 17 miles of combination 2-, 3- and 4-inch line was dug up, extending to this pool from a loading rack on the Santa Fe Railroad to the south. The line was relaid to the north to connect with the Atlantic Pipe Line Co.'s line serving the southern Ward County producing area. Connection was made in Section 17, Block 5, H.&T.C. Survey.

The Gulf Pipe Line Co. is expected to lay about 7 miles of small gathering line from its main line out of the Yates Field, Pecos County, to connect with its new wildcat discovery on the White & Baker Ranch, in Section 4, Block 207, T. C. Railway Survey. The company holds a solid block north of the well and is expected to drill other tests around the discovery in the near future. Perhaps the line will be held up until more wells are completed, which should be within the next few months.

In the Panhandle

The Texas Co. laid 12 miles of 6-inch extending from the Lefors area in Gray County to The Texas Co.'s Carwile lease in Section 51, Block 24, H.&G.N. Survey to fulfill a need for an outlet for the extended area. Gathering lines were laid in Western Wheeler County to connect with wells as they extended production in that area, one of the most active during the year.

The Texas Pipe Line Co. has surveyed for 25 miles of 6-inch line from its pool on the Les K. Johnson Ranch on the extreme west edge of Foard County, where it now has three producers and a gasoline plant, to the Pipe Line Co.'s Acme Station in Section 209, W.&W.N. Survey, to the north, in Hardeman. This will give the pool a direct outlet by the sister company. The oil is now transported by the Magnolia-Gulf main line from the Panhandle district south to the Gulf.

The Texas Co. built 15 miles of 3-inch gasoline line from the above field in Foard County, to a loading rack at Ford City, where gasoline manufactured in the casinghead plant, near the wells, is shipped out by the company.

In the Wichita Falls area, the Sinclair Prairie laid 7 miles of 3-inch gathering line to connect with the Justice Pool southeast of the Falls County School Lands Survey.

Gulf Coast Well Provided

No major pipe line work was undertaken on the Gulf Coast the past year. Lines laid, while there were quite a few in number, were confined largely to comparatively short branches from already existing main systems to various new fields and in a few instances to old fields which previously had no pipe line outlet.

Except for new trunk lines which might be laid to tidewater at some of the Gulf Coast terminals from districts outside the coast or for general reconditioning projects it is not likely there ever will be any more long lines laid in this area. The coverage of pipe line systems by all the larger companies now is so extensive that it would be difficult to open new production far from an existing pipe line. The only part of the coast not generally served by pipe lines is the Louisiana Coast but there the extensive network of waterways makes barge movement of oil easier and perhaps more economical.

New Lines in South Louisiana

On the other hand, coastal Louisiana accounted for greater part of what new pipe line work was done on the Gulf Coast for the year. Pure Oil Co. laid an 8-inch line from the new Bosco Field, located on the Acadia-St. Landry Parish line, to Gueydan, in Vermillion Parish, a distance of 32 miles; Shell Petroleum Corp. laid 20 miles of 6-inch welded line from the new Roanoke Field, in Jefferson Davis Parish, to Iowa, on the Calcasieu-Jefferson Davis Parish line; and Gulf Refining Co. of Louisiana laid 20 miles of 6-inch screw line from the Hackberry Field of Cameron Parish to Vinton in Calcasieu Parish. Except for a 20-mile gas line out of the Conroe Field, Montgomery County, there were no new lines on the Texas Coast longer than 10 miles.

The new Bosco line is the only pipe line outlet for that field, which is owned jointly by Superior Oil Producing Co. of Louisiana and the Pure Oil Co., the former doing the development. Pure Oil Co. takes the oil to Gueydan, from where the company has a 12-mile line to barge loading facilities on the Mermentau River. From there the oil is barged through the Intercoastal Canal to Pure's refinery at Smiths Bluff, south of Beaumont.

The Shell line from Roanoke is that field's first and only pipe line outlet. It connects at Iowa with the company's 20-mile line from that field to storage and docks on the Calcasieu River at a point south of Lake Charles. The Calcasieu River at that point is capable of handling either barge or ocean going tankers. Roanoke is a controlled field in which Shell Petroleum Corp. and Humble Oil & Refining Co. are the sole operators.

Hackberry to Vinton

Gulf Refining Co.'s new line from Hackberry to Vinton is Hackberry's first pipe line outlet although the field has been producing since November, 1927, and at several times has reached major importance on the Gulf Coast in production. Production in the past has been moved from the field by barges, which can be loaded in Kelso Bayou, a deep inlet from Calcasieu Lake through the heart of the field. The field is located on Calcasieu Lake at the mouth of Kelso Bayou, and the oil can be barged through the Intercoastal Canal to the large refineries of the Beaumont district. The new line, which was laid as a result of recent development which the Gulf is doing at Hackberry, extends northwestward, connecting at Vinton with a line the company has out of that field.

The only other line, outside of some gathering systems, laid in coastal Louisiana also was at Hackberry, where Yount Lee Oil Co. put in two miles of pipe linking a semi-wildcat producer with its barge loading docks on Kelso Bayou.

From Louise, in Wharton County, Texas Coast, Pure Oil Co. laid 3½ miles of 4-inch line to loading docks constructed on the Southern Pacific Railroad at the town of Louise. The field of Louise is owned entirely by the Pure Oil Co. and the line furnishes the sole outlet.

Encio Gas Co., whose holdings since have been acquired by the Phillips Petroleum Co., laid a 1 mile line from the new Vanderbilt Field in Jackson County to a loading rack at the town of Vanderbilt. The line was put in following the completion of the discovery well and since then the field has turned out a disappointment.

The opening late in June of what now is known as the Tomoconnor Field, 8 miles northeast of the Refugio Field, Refugio County, occasioned the laying of a 6-inch and 4-inch line by the Humble Pipe Line Co. This line extends from the field to Refugio where it ties in with the company's Pettus-Refugio-Ingleside 8-inch line. The Tomoconnor Field is owned jointly by Quintana Oil Co. and Humble Oil & Refining Co.

New lines in Southwest Texas were limited to a very few short branches and to gathering system extensions. Pettus Refining Co. laid 3½ miles of small pipe from its refinery at Pettus, Bee County, to the new West Tuleta Field. This company has a 5½ mile line from the refinery to the North Pettus Field. Sun Pipe Line Co. laid a 4-inch gathering system in the Los Cuevitas Field, northwestern Starr County, while Duval Pipe Line Co. laid a gathering system in the new Sam Fordyce (Mission) Field in Hidalgo County, and a 4-inch line from the field to a loading rack about a mile from the field.

42 Mile Line in New Mexico

In New Mexico, the Artesia Pipe Line Co. constructed a 42-mile 4-inch oil line from the Maljamar area in Eastern Eddy County to the Malco refinery at Artesia. It connects with a gathering system which serves the Grayburg Oil Co., Republic Oil Co., the Danciger and Dexter-Arnold wells. The project was financed by Texas capital and E. M. Closuit, of Dallas, is president. The Fredell Construction Co., of Denver and Dallas, had the contract.

The Getty Oil Co. built a 2-mile 6-inch line from its gathering system in the Getty Pool to the Atchison, Topeka & Santa Fe Railroad. The Continental Oil Co. recovered, wrapped and relayed its 90-mile 4-inch line from the Rattlesnake Field to Gallup, and the Stanolind Oil & Gas Co. did extensive rehabilitation work on its line from the Hogback Pool to the refinery at Farmington.

California Pipe Line Work

The latest new pipe line undertaken in California is the Standard Oil Co.'s installation which, upon completion some time early in 1935, will extend from Rio Bravo in Kern County to tidewater at Estero Bay in Monterey County. This new line is being laid in order to permit greater flexibility of operation and at the same time substantially reduce operating costs. The new line will extend up the western rim of the San Joaquin basin to a point where it will encounter two other existing lines of the Standard from which point it will follow the same geographical route to tidewater. Upon completion of this new installation, the Standard will have three pipe lines extending from the interior to tidewater at Estero. Two of these lines, one black and the other a white line, extend from Kettleman Hills to Estero and were laid several years ago. The new line from Rio Bravo will permit the transportation of either light or heavy crude oil from San Joaquin basin fields to Estero from which point it can be moved to refining centers at a minimum of cost via tankers.

Co-incident with the installation of the Standard's new pipe line from Rio Bravo to Estero, the company plans to install

four new pump stations and remodel the one now existing at Rio Bravo. Another new submarine loading line will also be laid at Estero Bay in order to facilitate loading operations as this new line will permit two tankers to dock simultaneously. In addition to the line, tentative plans call for the erection of 1,000,000 bbls. of steel tankage at Rio Bravo and a similar amount at Estero Bay terminal.

Several auxiliary lines have been laid out of the Mountain View Field of Kern County within the past few months but in every case these short lines merely supplemented existing facilities.

It is quite likely that several lines will be laid out of the Edison Field early in the new year but, due to its proximity to the Mountain View Field, these new installations will be short.

Rocky Mountain Construction

The principal oil pipe line construction in the Rocky Mountain area in 1934 included the building of two projects in Montana to serve the Cut Bank Field, and one in Eddy County, New Mexico.

The International Pipe Line Co., a subsidiary of the Texas Co., completed and put into operation early in July a 27-mile 6-inch line from the Cut Bank Field in Glacier County to Sunburst, in Toole County. At Sunburst it connects with the plant of the International Refining Co., a wholly-owned subsidiary of the Texas Co. Roger C. Moore & Co. of Shelby, had the contract. The new line connected in the northern part of the field with a 14-mile 4-inch line which was built by the Santa Rita Oil & Gas Co. from its producers to railhead near the town of Cut Bank. This system was acquired by the International Company. The line connects at Sunburst with the Illinois Pipe Line Co.'s outlet to Coutts, Canada. The gathering system in the field gradually was extended as new wells were completed and eventually will be extended 8 or 10 miles to the south when developed production will warrant it. The line represents an initial investment of $150,000.

A second line from the Cut Bank Field to Coutts, Canada, was built by the Toronto Pipe Line Co., subsidiary of the British-American Oil Co. Ltd. This is a 30-mile 6-inch line running north from Section 2-34-6w. The project included 12 miles of 4-inch gathering lines, a tank farm and pumping station in Section 20-34-6w, a telephone system, and appurtenances. It transports crude to the British-American refinery at Coutts. From there crude is shipped to Moose Jaw. The contract for the main line was let to Ford, Bacon & Davis, Inc., of New York, and the initial project represented an investment of $300,000. Oil was turned into the line early in August.

Michigan's New Lines

The largest oil line laid in Michigan was 13 miles of welded 4-inch laid from the Porter Pool, Midland County to the Mid-West Refineries, Inc., plant, a new 1,000-bbl. skimming unit at Alma.

Naph-Sol Refining Co. of Muskegon, laid about 9,000 feet, or nearly 2 miles of double 6-inch at a cost of about $15,000 from its plant in the Muskegon Field to a new tanker loading wharf at the head of Muskegon harbor. The new wharf was the third of its kind in that vicinity on Muskegon Lake, two others being operated by the Old Dutch Refining Co. and the Standard Oil Co. of Indiana. All are used for transportation of fuel and gas oils to and from Muskegon by boat. Old Dutch also is used for incoming shipments of Shell gasoline while Standard of Indiana maintains another wharf on Muskegon Lake for this purpose.

Two smaller oil lines were laid including 2 miles of 3-inch gathering lines extending from Ogenaw County wells to a new Simrall Pipe Line Co. loading rack erected in West Branch, Ogenaw County, and a one-mile line laid by the Pure Oil Pipe Line Co., now the Pure Transportation Co., from several new Montcalm County wells in Home Township to a nearby railroad loading platform.

Natural Gas Pipe Lines Constructed in 1934 Were Few and Not of Great Length

A 72-mile natural gas pipe line in East Central Texas and a 52-mile line in Michigan were the longest construction jobs in the United States in 1934. Lines of 20 to 30 miles in length and a considerable number of short lines from leases to natural gasoline plants made up the remainder of the work done during the year.

In Kansas

The Inland Pipe Line Co. of Emporia, Kans., laid a gas line from Burrton gas field to the town of Burrton, Kans., to serve the municipal distributing system in that town.

Salt City Gas Co. laid 10½ miles of 4 and 6-inch welded line from Section 23-23-4w in Burrton district, Reno County, to Kansas State Reformatory at Hutchinson, Kans.

East Texas Short Lines

The Sinclair Prairie Oil Co., Hanlon Gasoline Corp., Hercules Gasoline Corp., Lisbon Gasoline Corp., Parade Gasoline Co., and some smaller plants, constructed and put into operation in East Texas during the year, many miles of gas gathering lines, also return lines which will be used some time in the future to return residue gas for repressuring leases. Another gasoline plant is expected to be built in Gregg County during the fore part of 1935. The Sabine Valley Gasoline Co. is expected to erect this plant, south of the Sabine River on the Mary Scott Survey. If built it will require approximately 90 miles of pipe, ranging in sizze from 2 to 20 inches.

72 Mile Gas Line

The greatest piece of pipe line laid during the year in the East Central Texas district was 72 miles of 12-inch welded line from the Long Lake gas field in southwestern Anderson County, to Reisel Station in McClennan County. This line will serve gas from the Long Lake wells to towns and cities in this part of the state. The same company has proposed laying 100 miles of gas line from the Cayuga Pool in northwest Anderson County, north to Dallas, serving towns along the line with gas from this field, and also adding an extra supply of gas for Dallas, if necessary.

The Texas Pipe Line Co. laid 3 miles of pipe to connect its main North Texas-Gulf Coast line with the Cayuga Pool, Anderson County, during the fore part of the year, giving that field its first and to date, only outlet.

Gas Gathering Lines

Both the Midland Gasoline Corp. and the Humble Oil & Refining Co. laid extensive gas gathering systems in the Conroe Field, these to supply their respective new gasoline recovery plants. Midland now has a total of more than 200 miles of line laid during the latter part of 1933 and during 1934. This covers virtually all parts of the field, and consist of pipe from 12-inch on down. Humble's system which serves the company's own leases also reaches all sections of the field.

A 20-mile gas line laid out of the Conroe Field was put in by the United Gas System. It is of 10-inch and 8-inch pipe and extends to Huffman Station on the company's trunk line from Northeast Texas to Houston. In connection with this project, a new booster station was constructed in the Conroe Field.

Rocky Mountain Gas Lines

Natural gas pipe line construction in the Rocky Mountain area in 1934 was limited to short lines connecting up industrial plants, extending existing systems and in rehabilitating trunk lines which have been in service a number of years.

In New Mexico, the Pecos Valley Gas Co. built a 26-mile line from a connection with El Paso Natural Gas Co. Jalco-El Paso line to Carlsbad to obtain an auxiliary supply of 6,000,000 feet a day for use in an emergency. The work was finished late in December.

The Eddy County Gas Co., a subsidiary of the El Paso Natural Gas Co., completed early in the year a 20-mile lateral line from a connection with its main line in the southeastern corner of Eddy County, to the refinery of the United States Potash Co., near Loving, southeast of Carlsbad.

In Wyoming, the Rocky Mountain Gas Co., a subsidiary of the Ohio Oil Co., laid a 22-mile 6- and 8-inch line from Medicine Bow, in Carbon County, to a connection with its Dutton Creek-Laramie line. A 5-mile line from the Allen Lake gas field to Medicine Bow was completed late in 1933. The line furnishes an additional supply of gas from the Allen Lake Field to Laramie for industrial and domestic purposes.

The Uinta Pipe Line Co., a unit of the Western Public Service Co. system from the Hiawatha-Baxter Basin fields in Colorado and Wyoming into Utah, did extensive maintenance work on 200 miles of the line. This consisted of uncovering, trussing up, cleaning, polishing and painting the pipe at a cost of $300,000.

The Montana Gas Utilities Co. completed during the summer a 19-mile line from Saco, in Phillips County, to Fort Peck, to supply gas from the Bowdoin Field for domestic use and for the Fort Peck reclamation project being constructed by the government. A series of shallow gas wells was drilled to increase the available gas supply.

The Billings Gas Co., which distributes natural gas in Billings, Montana, and adjacent territory from the Elk Basin and Dry Creek fields, expended $275,000 in enlarging the trunk line from Laurel to Billings, the extension of the distributing system to two subdivisions and other betterments.

No major projects for 1935 have so far been announced. Henry P. Rothwell, of the Padlock Livestock Co., which has a ranch near Gillette, Wyoming, on which several shallow gas wells were drilled while boring for water, has an application before the Wyoming Public Service Commission for a 25-mile line along U. S. Highway 16 from the ranch to the town of Gillette. The purpose is to assign the permit, if granted, to some corporation which will build and operate the system. The gas is found at a depth of 300 feet and the wells make from 500,000 to 1,500,000 feet a day.

Michigan's New Lines

A new record total of about 80 miles of pipe line was laid in Michigan during 1934 at a cost of about $750,000, while the year ended with prospects 1935 would be a greater pipe line year than ever before.

The major project was the laying of a 52-mile natural gas line by the American-Michigan Pipe Line Co., new Muskegon subsidiary of the American Light and Traction Co., to transport production of the Austin Township, Mecosta County pool to Muskegon and Muskegon Heights.

The American-Michigan Co. contracted about January 15 to take the output of Taggart Brothers, Inc., developers of the Austin Township pool shortly after they brought in Michigan's record gasser making 34,000,000 cubic feet a day from the Michigan stray sands.

The Muskegon company purchased prior rights on 15,000,000,000 cubic feet of reserves, or practically the entire field as of January 1, 1935, at 15 cents a cubic foot at the well. It is estimated this is a sufficient supply for Muskegon and Muskegon Heights for at least 10 years.

Actual laying of the line was not started until early September when a 9,000,000 cubic foot well satisfied reserve requirements under the contract. More than 500 men were employed for about 30 days in laying the 8-inch main line, gathering lines and larger pipe leading into Greater Muskegon. The line was finished November 18 and change over to natural gas completed December 20 with more than 58,000,000 cubic feet delivered to 9,000 Greater Muskegon consumers by January 1, 1935.

The line was laid by the United Light and Power Co. with Edward L. Fischer, of Davenport, Iowa, in charge as supervising engineer, and R. F. Henneman, also of Davenport, superintendent of construction.

Two pipe line systems for gathering casinghead gas were laid in central Michigan fields by the O. H. Grimes Natural Gasoline plant and the Apex Gasoline Co., the former in the old Mt. Pleasant Field in Chippewa and Greendale Townships of Isabella and Midland County and the latter in the Porter Township, Midland County pool, largest in Michigan.

The Grimes company laid about 5 miles of 2- to 6-inch gathering lines, while the Apex company laid a considerable larger gathering system in addition to 14 miles of 6-inch to transport residue gas from the plant to Midland where it is to be consumed by the Dow Chemical Co.

A 1-mile gas line was laid by the Youmans-Burke Oil & Gas Co. from two wells having a combined open flow of 9,000,000 cubic feet in Sherman Township, Isabella County, to the gathering lines of the Michigan Cities Natural Gas Co. through which the Consumers Power Co. obtains gas for its 50-mile line to Saginaw and Bay City built two years ago.

Naph-Sol Refining Co. purchased the former Pure Oil pipe line in Ogemaw County, including about 5 miles of 2-, 3- and 4-inch transporting crude from West Branch Township wells to loading racks on the Michigan Central railroad. A reported price of $9,000 was paid.

Pure Oil Co. also installed new booster equipment doubling the capacity of its 40-mile pipe line from Central Michigan to loading wharf at Bay City. The line now has a capacity of about 24,000 bbls. a day.

Prospects for 1935 included proposed construction of a $5,000,000 natural gas line from central Michigan fields to Detroit, Flint, Pontiac and other southeastern Michigan cities with a population far greater than that now served by all Michigan gas lines.

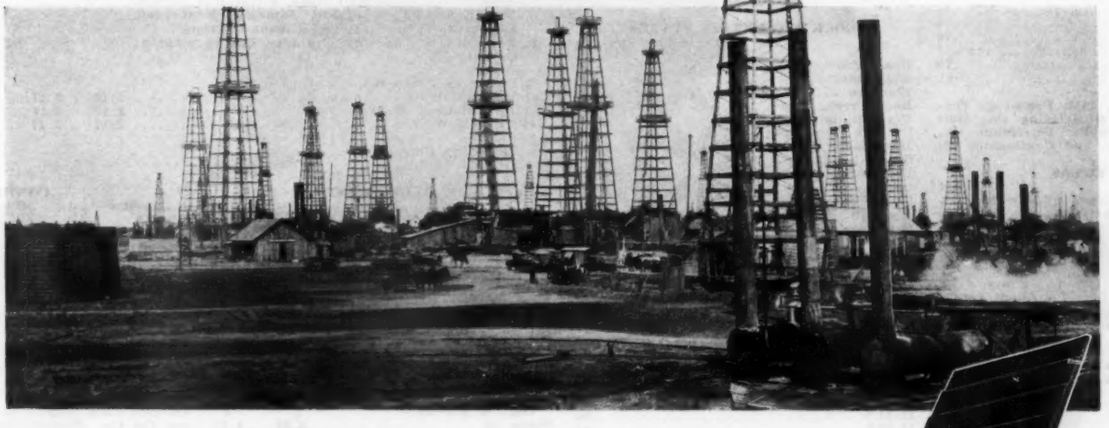
Gas Lines in Canada

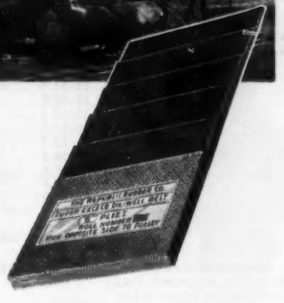
In Canada, no extensive or important natural gas pipe lines were constructed in 1934. The major natural gas companies in both Alberta and Ontario carried on their usual renovations and replacements to existing lines.

The only new construction of any importance was a 6-inch line 11½ miles long to deliver natural gas from some newly completed wells in the Dover Field, Kent County, Ontario to the main transmission line of the Southern Ontario Gas Co.

The Southern Ontario Gas Co. will, early in the spring of 1935, commence the laying of a line approximately 20 miles in length from its purification plant at Glenwood in the Tilbury Field, Kent County, to the town of Leamington. Details as to the size of this new line have not been made public. It will supply the Leamington municipal distributing system with purified gas, instead of the raw gas previously furnished. The estimated cost of the line is $68,000.

HIGH TENSILE STRENGTH •• *for* OVERLOADS

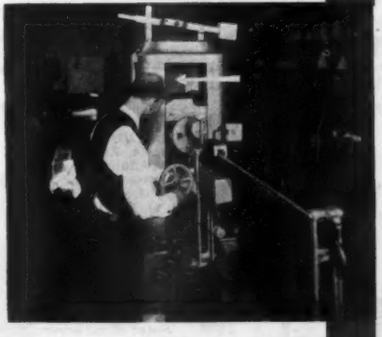




SUPER EXCELO

OIL COUNTRY BELTING • • • •

Branded with the A. P. I. Symbol and made to specifications that considerably exceed the A. P. I. minimum requirements.



HIGH TENSILE STRENGTH is an all important factor in oil country belting and the correct measure of this quality for giving the best service has been determined through long experience by our engineers. Super Excelo Belts are tested to the breaking point on an Olsen Tensile Testing Machine to determine their strength per ply inch and our rigid specifications must always be met. These specifications allow for a wide factor of safety above operating loads in order to fully provide for the frequent overloads and jerky drives of pumping and drilling operations.

Super Excelo is equally noted for its flexibility, minimum stretch and perfect ply adhesion. All factors have been highly developed to meet the most severe service conditions.

NRA MEMBER U.S. WE DO OUR PART

Mid-Continent Distributors
FRICK-REID SUPPLY CORPORATION, TULSA, OKLA.
THE BOVAIRD SUPPLY CO., TULSA, OKLA.

THE REPUBLIC RUBBER CO. YOUNGSTOWN, OHIO

Manufacturers of Rotary and all other types of Hose, Transmission Belting, Packing, Gaskets, Rings, etc. for Oil Country Service

Summary of Changes in Crude Oil Prices During Year 1934

TEXAS PANHANDLE

Gray County*

Gravity—	Jan. 1
Below 35	$.79
35-35.9	.81
36-36.9	.83
37-37.9	.85
38-38.9	.87
39-39.9	.89
40 and over	.91

Posted by Texas Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Sinclair Prairie Oil Marketing Co., and H. F. Wilcox Oil & Gas Co.

Note: Effective June 1, 1934, Texas Co. purchases Panhandle crude on a sweet and sour basis. Panhandle sweet crude is paid for on a basis of the Gray County prices posted above, and Panhandle sour crude is paid for on a basis of the Carson, Hutchinson, and Moore County prices.

(Carson, Hutchinson and Moore Counties)

Gravity—	Jan. 1
Below 35	$.69
35-35.9	.71
36-36.9	.73
37-37.9	.75
38-38.9	.77
39-39.9	.79
40 and above	.81

Effective January 1, 1934, Posted by Texas Co., Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co., and Continental Oil Co.

WEST TEXAS

	Jan. 1
Crane, Upton, Ector, Crockett, Howard, Glasscock and Mitchell	$.70
Winkler and Pecos Counties and Lea County, N. Mex.	.75
Pecos County, Yates shallow pool	.65

Posted by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas.

NORTH, CENTRAL, AND EAST CENTRAL TEXAS

Gravity—	Jan. 1
Below 29	$.79
29-29.9	.81
30-30.9	.83
31-31.9	.85
32-32.9	.87
33-33.9	.89
34-34.9	.91
35-35.9	.93
36-36.9	.95
37-37.9	.97
38-38.9	.99
39-39.9	1.01
40 and over	1.03

Posted by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Bell Oil & Gas Co., Continental Oil Co.

CANADIAN FIELDS

	Jan. 1	Mar. 5	May 21
Petrolia	$2.10	$2.10	$2.10
Oil Springs	2.17	2.17	2.17
Turner Valley, Alta.:			
Clear naphtha	3.15	2.87	2.55
Discolored naphtha	2.91	2.63	2.31
40-44.9	1.50	1.50	1.50
45-49.9	2.07	2.07	2.07
50 and above	2.66	2.44	2.19

Posted by Imperial Oil, Ltd., and Regal Oil Co.

OKLAHOMA AND KANSAS

Gravity—	Jan. 1
Below 25	$.76
25-25.9	.78
26-26.9	.80
27-27.9	.82
28-28.9	.84
Below 29	.84
29-29.9	.86
30-30.9	.88
31-31.9	.90
32-32.9	.92
33-33.9	.94
34-34.9	.96
35-35.9	.98
36-36.9	1.00
37-37.9	1.02
38-38.9	1.04
39-39.9	1.06
40 and over	1.08

Posted by Stanolind Crude Oil Purchasign Co., Texas Co., Continental Oil Co. and Sinclair Crude Oil Purchasing Co., Magnolia Petroleum Co., Carter Oil Co., and Gypsy Oil Co.

ROCKY MOUNTAIN STATES

	Jan. 1	May 1
Iles, light	$.96	$.96
Iles, heavy	.90	.90
Florence	.30	.30
Rock Creek, Wyo.	1.02	1.02
Frannie, light	.87	.70
Frannie, heavy	.62	.62
Big Muddy	1.01	1.01
Grass Creek	1.18	1.18
Elk Basin	1.18	1.18
Osage	.52	.52
Torchlight	1.18	1.18
Greybull	1.18	1.18
Cat Creek	1.07	1.07
Pondera	1.15	1.15
Sunburst	1 35	1.35
Hogback, N. Mex.	1.11	1.11

Posted by Stanolind Oil Co. and Ohio Oil Co.

SALT CREEK, WYOMING

	Jan. 1
Below 29	$.84
29-29.9	.86
30-30.9	.88
31-31.9	.90
32-32.9	.92
33-33.9	.94
34-34.9	.96
35-35.9	.98
36-36.9	1.00
37-37.9	1.02
38-38.9	1.04
39-39.9	1.06
40 and over	1.08

Posted by the Stanolind Oil & Gas Co.

MIDDLE WESTERN STATES

	Jan. 1	Jan. 5	May 26
Lima	$1.30	$1.30	$1.30
Illinois	1.22	1.12	1.12
Princeton	1.23	1.13	1.13
Plymouth—shut in.			
Western Kentucky	1.18	1.18	1.08
Midland, Mich.	1.02	1.02	1.02
Oceana, Mich.	.90	.90	.90
Somerset, Ky.	1.23	1.23	1.23
Hart County, Ky.	1.18	1.18	1.18

Midland, Mich. Posted by the Pure Oil Co.; Somerset, Ky., crude purchased by Ashland Refining Co.; Hart County, Ky., posted by Stoll Refining Co.; Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.; Western Kentucky posted by Ohio Oil Co.

EASTERN STATES

	Jan. 1	Jan. 29	May 1	Nov. 6	Dec. 6
Bradford, Pa.	$2.45	$2.45	$2.55	$2.30	$2.05
Allegany, N. Y.	2.45	2.45	2.55	2.30	2.05
Posted by Tide Water Pipe Line Co.					
Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	2.45	2.45	2.55	2.30	2.05
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.12	2.12	2.22	1.97	1.72
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.07	2.07	2.17	1.92	1.67
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.92	1.97	2.07	1.82	1.57
Corning Grade Oil in Buckeye Pipe Line Co.'s lines	1.32	1.32	1.32	1.32	1.32
Posted by South Penn Oil Co.					
Pennsylvania Grade Oil in National Transit Lines:					
Group A (Includes Cochran, Franklin, Hamilton and Doolittle districts.)	2.37	2.37	2.47	2.22	1.97
Group B (Includes Titusville district.)	2.36	2.36	2.46	2.21	1.96
Group C (Includes Turkey and Tidioute districts.)	2.35	2.35	2.45	2.20	1.95
Group D (Includes Bear Creek and Porkey districts.)	2.34	2.34	2.44	2.19	1.94
Group E (Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinsua districts. Price depends on length of pipe line to plant at Oil City.	2.32	2.32	2.42	2.17	1.91
Posted by Pennsoil Co.					
Cabin Creek, W. Va.	2.17	2.17	2.17	1.92	1.67
Bradford Hollow, W. Va.	2.17	2.17	2.17	1.92	1.67
Kelly Creek, W. Va.	2.17	2.17	2.17	1.92	1.62

Posted by Pure Oil Co.

GULF COAST

	Jan. 1	Jan. 11
Tomball	$1.15	$1.15
Livingston	1.00	$1.00
Cleveland		1.00
Greta	.85	.85
Refugio heavy	.85	.85

Tomball posted by Humble Oil & Refining Co., Magnolia Petroleum Co. and Stanolind Oil & Gas Co. Greta posted by Texas Co. Livingston posted by Shell Petroleum Corp. Refugio heavy posted by Humble Oil & Refining Co., and Cleveland by Magnolia Petroleum Co.

Degrees gravity—	1	2
Below 20	$.82	$.82
20-20.9	.84	.84
21-21.9	.86	.86
22-22.9	.88	.88
23-23.9	.90	.90
24-24.9	.92	.92
Below 25		
25-25.9	.94	.94
26-26.9	.96	.96
27-27.9	.98	.98
28-28.9	1.00	1.00
Below 29		
29-29.9	1.02	1.02
30-30.9	1.04	1.04
31-31.9	1.06	1.05
32-32.9	1.05	1.06
33-33.9	1.10	1.07
34-34.9	1.12	1.08
Below 35		
35-35.9	1.12	1.09
36-36.9	1.12	1.10
37-37.9	1.12	1.11
38-38.9	1.12	1.12
39-39.9	1.12	1.13
40 and over	1.12	1.14

Column 1—Posted by Humble Oil & Refining Co., Gulf Pipe Line Co., Shell Petroleum Co., Pure Oil Co., Sinclair Prairie Oil & Marketing Co., and Magnolia Petroleum Co.

Column 2—Posted by the Texas Co.

CONROE

Gravity—	Jan. 1
35-35.9	$1.09
36-36.9	1.11
37-37.9	1.13
38-38.9	1.15
39-39.9	1.17
40 and over	1.19

EAST TEXAS

	Jan. 1
East Texas	$1.00

Effective September 29, 1933. Posted by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co., Empire Oil & Refining Co.

CORSICANA

	Jan. 1
Corsicana	$.80

Corsicana effective June 17, 1933. Posted by the Magnolia Petroleum Co.

SOUTH CENTRAL AND SOUTHWEST TEXAS

	Jan. 1
Darst Creek	$.87
Luling	.75
Mirando	.80
Pettus	1.05
Salt Flat	.87
Lytton Springs	.95
Duval County	.80
Saxet	.85

Effective January 1, 1934, by Humble Oil & Refining Co. in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective January 1, 1934, in Darst Creek by Gulf Pipe Line Co. and Texas Co.

NORTH LOUISIANA AND ARKANSAS

	Jan. 1	Jan. 13	Mar. 17
Smackover, Ark.	.70	.70	.70
Tullos-Urania, La.	.75	.87	.87
Nevada, Ark.	.60	.60	.60
East Eldorado, Ark.	.70	.70	.70
Converse, La.			*1.03
Elm Grove, La.			*.75
Holly, La.			*1.03
Pleasant Hill, La.			*1.03
Zwolle, La.			*1.03
Champagnolle, Ark.			*.81
Lisbon, Ark.			*1.03
Stephens, Ark.			*.70
Urbana, Ark.			*.60

*Initial posting.

Note: Smackover: Effective September 29, 1933, Texas Co., Magnolia Petroleum Co., Standard Oil Co. of Louisiana, Oil Refining Corp., Gulf Refining Co. and Phillips Petroleum Co. East Eldorado posted by Magnolia Petroleum Co. and Gulf Refining Co.; Nevada by Standard Oil Co. of Louisiana. Urbana posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co. Converse, Holly, Zwolle and Urbana by Standard Oil Co. of Louisiana; Elm Grove by Simmons Oil & Refining Co., Pleasant Hill by Standard Oil Co. of Louisiana and Magnolia Petroleum Co.; Champagnolle by Standard Oil Co. of Louisiana and Lion Oil & Refining Co.

STANDARD OIL CO. OF CALIFORNIA

(Prices January 1, 1934)

For current purchases of crude oil at the well (unless otherwise specefied). (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier, La Habra	Montebello	Santa Fe Springs	La Habra-Coyote	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	....	$.65	$.65	$.65	$.65	....	$.65	$.57	$.57	$.57	$.65
15-15.9	.65	.65	.69	.69	.66	.69	....	.66	.65	.65	.65	....	.65	....	....	....	.65
16-16.9	.66	.65	.72	.73	.69	.73	....	.69	.67	.68	.65	....	.65	....	....	....	.65
17-17.9	.69	.65	.75	.76	.73	.76	....	.72	.70	.71	.65	....	.68	....	....	....	.68
18-18.9	.72	.65	.78	.80	.76	.79	....	.75	.74	.74	.65	....	.71	.61	.61	.59	.71
19-19.9	.75	.65	.81	.83	.80	.83	....	.78	.78	.78	.65	....	.74	.64	.65	.62	.74
20-20.9	.78	.68	.83	.87	.83	.85	....	.81	.82	.81	.66	....	.78	.67	.69	.65	.78
21-21.9	.81	.72	.86	.90	.87	.88	....	.83	.85	.84	.69	$.72	.81	.70	.75	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	....	.85	.89	.87	.72	.76	.84	.73	.76	.72	.84
23-23.9	.88	.81	.92	.97	.94	.95	$.85	.89	.93	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.85	.95	1.01	.97	.98	.86	.92	.97	.93	.80	.82	.90	.81	.82	.78	.90
25-25.9	.94	.89	.98	....	1.00	1.01	.90	.95	1.00	....	.85	.87	.93	.85	.85	.81	.93
26-26.9	.97	.93	1.01	....	1.04	1.04	.94	.98	1.04	....	.89	.90	.96	.89	.88	....	.96
27-27.9	1.00	.98	1.04	....	....	1.07	.97	....	1.08	....	....	.94	.99	.93	.91	....	.99
28-28.9	1.03	1.02	1.07	....	....	1.10	1.01	....	1.11	....	....	.98	1.02	.97	.94	....	1.02
29-29.9	1.06	1.05	1.09	....	....	....	1.04	....	1.15	....	....	1.01	1.05	1.01	.97	....	1.05
30-30.9	1.09	1.10	1.12	....	....	....	1.08	....	....	....	....	1.05	1.09	1.05	1.00	....	1.09
31-31.9	....	....	....	....	....	....	1.12	....	....	....	....	1.08	1.12	1.09	....	....	1.12
32-32.9	....	....	....	....	....	....	1.15	....	....	....	....	1.12	1.15	1.13	....	....	1.15
33-33.9	....	....	....	....	....	....	....	....	....	....	....	1.15	1.18	1.17	....	....	1.18
34-34.9	....	....	....	....	....	....	....	....	....	....	....	1.19	1.21	....	....	....	1.21
35-35.9	....	....	....	....	....	....	....	....	....	....	....	1.23	....	....	....	....	....
36-36.9	....	....	....	....	....	....	....	....	....	....	....	1.26	....	....	....	....	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	1.30	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.34	....	....	....	....	....

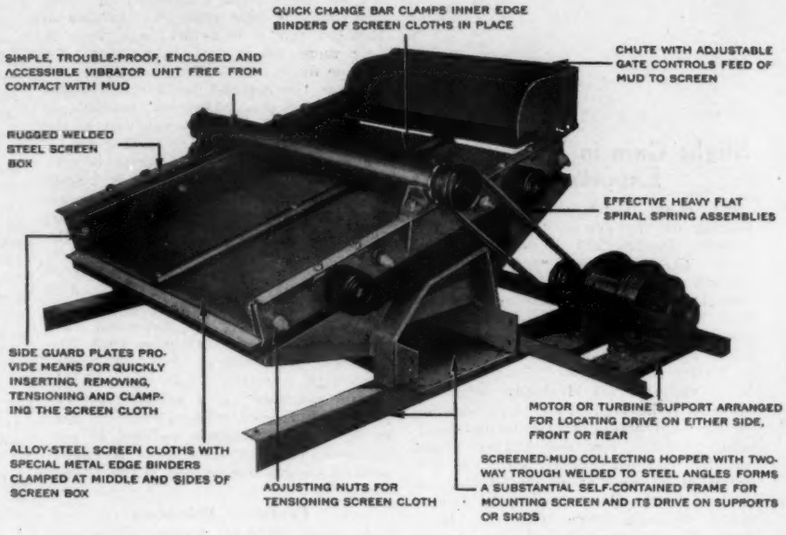
CADDO, LA.

	Jan. 1	Mar. 17
Below 25	.63	....
25-25.9	.65	....
26-26.9	.67	....
27-27.9	.69	....
28-28.9	.71	....
Below 29	....	.79
29-29.9	.73	.81
30-30.9	.75	.83
31-31.9	.77	.85
32-32.9	.79	.87

(Continued on Next Page)

LINK-BELT

ROTARY CHAINS and ROTARY MUD SCREENS


QUICK CHANGE BAR CLAMPS INNER EDGE BINDERS OF SCREEN CLOTHS IN PLACE
SIMPLE, TROUBLE-PROOF, ENCLOSED AND ACCESSIBLE VIBRATOR UNIT FREE FROM CONTACT WITH MUD
CHUTE WITH ADJUSTABLE GATE CONTROLS FEED OF MUD TO SCREEN
RUGGED WELDED STEEL SCREEN BOX
EFFECTIVE HEAVY FLAT SPIRAL SPRING ASSEMBLIES
SIDE GUARD PLATES PROVIDE MEANS FOR QUICKLY INSERTING, REMOVING, TENSIONING AND CLAMPING THE SCREEN CLOTH
MOTOR OR TURBINE SUPPORT ARRANGED FOR LOCATING DRIVE ON EITHER SIDE, FRONT OR REAR
ALLOY-STEEL SCREEN CLOTHS WITH SPECIAL METAL EDGE BINDERS CLAMPED AT MIDDLE AND SIDES OF SCREEN BOX
ADJUSTING NUTS FOR TENSIONING SCREEN CLOTH
SCREENED-MUD COLLECTING HOPPER WITH TWO-WAY TROUGH WELDED TO STEEL ANGLES FORMS A SUBSTANTIAL SELF-CONTAINED FRAME FOR MOUNTING SCREEN AND ITS DRIVE ON SUPPORTS OR SKIDS

Uniform vibration of the entire screening area.

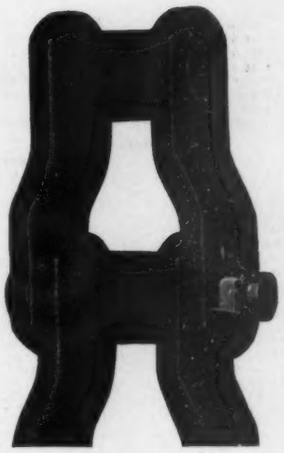
All rotating parts are carried on anti-friction self-aligning roller bearings enclosed in a single dirt and weather proof housing.

Screen cloths rest on rubber tubes. An important, exclusive, patented and proved feature which assures maximum service, and assists in preventing loss of good mud in the rejects.

A small, compact, self-contained unit readily transportable from one location to another.

THREE-BAR HYPER SS-124 (A.P.I.4)

A drop forged sidebar chain. The ultimate in strength and durability is attained in this chain. Its mighty strength is secured by the tough alloy steels of which it is made, and the accuracy of its manufacture. Ultimate strength of 170,000-lbs.



HYPER SS-40 (A.P.I.3)

Built to have maximum strength for deep well drilling, combined with maximum durability, on rotaries of A. P. I. 3 pitch. An alloy chain. Ultimate strength is 75,000 pounds. Features accurate, rugged, dependable construction.

THE Link-Belt Vibrating Screen provides an effective, economical method of reclaiming, degassing and cleaning rotary mud; one that pays big returns on the investment. It saves wear and tear on pumps and valves, by eliminating rough cuttings and sand from the mud, and preventing the possibility of the drill bit plugging up, or of the tools sticking in the hole, through the interruption of circulation.

The screen is an extremely simple mechanism, both in construction and operation.

The vibrator shaft is driven from an electric motor, steam turbine or suitable multi-cylinder gas engine. The whole unit is self-contained, portable and easily installed in the low head room usually available. Send for folder 1472.

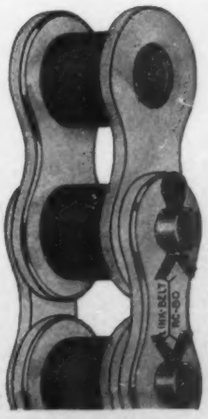
RED-HED SS-40+ (A.P.I.3) and SS-124+ (A.P.I.4)

Identified by the red pin head, LINK-BELT red-hed SS-40+ (48,000 lbs. ultimate strength), and SS-124+ (112,000 lbs. ultimate strength), have attained outstanding success in the oil fields.

WHERE extreme drilling conditions are encountered, use Link-Belt Three-Bar Hyper rotary chain. Its rugged construction of tough forged alloy steel, correctly balanced design, and close tolerances of all parts, provide greatest ultimate strength and smoothest operation.

All Link-Belt Hyper and Red-Hed chains are built to A.P.I. standards. Link-Belt provides a type of chain of correct capacity for every rotary drilling service.

This Link-Belt Trade >——< Mark prominently displayed on the side bars, identifies genuine Link-Belt chain.



SILVERLINK ROLLER CHAIN

For transmitting power where higher speed is essential, Link-Belt Silverlink Finished Steel Roller Chains have won a substantial place in the industry. They are employed on various kinds of light and heavy duty oil field equipment.

LINK-BELT COMPANY

INDIANAPOLIS · LOS ANGELES · PHILADELPHIA

Houston, FRED WALLACE, 4317 Montrose Blvd., P. O. Box 1082. Oklahoma City, W. H. ABELE, Box 305, Route 4.

Export Sales Office: 2680 Woolworth Bldg., New York, N. Y., U.S.A. *Cable Address:* "LINKBELT"

5178

33-33.9	.81	.89
34-34.9	.83	.91
35-35.9	.85	.93
36-36.9	.87	.95
37-37.9	.89	.97
38-38.9	.91	.99
39-39.9	.93	1.01
40 and above	.95	1.03

Posted by Standard Oil Co. of Louisiana.

Sabine-De Soto, La.

	Jan. 1	Mar. 17
Below 25	.69	....
25-25.9	.71	....
26-26.9	.73	....
27-27.9	.75	....
28-28.9	.77	....
Below 29	....	.79
29-29.9	.79	.81
30-30.9	.81	.83
31-31.9	.83	.85
32-32.9	.85	.87
33-33.9	.87	.89
34-34.9	.89	.91
35-35.9	.91	.93
36-36.9	.93	.95
37-37.9	.95	.97
38-38.9	.97	.99
39-39.9	.99	1.01
40 and over	1.01	1.03

Posted by Standard Oil Co. of Louisiana.

Sarepta-Carterville, La.

	Jan. 1	Mar. 17
Below 25	.75	....
25-25.9	.77	....
26-26.9	.79	....
27-27.9	.81	....
28-28.9	.83	....
Below 29	....	.79
29-29.9	.85	.81
30-30.9	.87	.83
31-31.9	.89	.85
32-32.9	.91	.87
33-33.9	.93	.89
34-34.9	.95	.91
35-35.9	.97	.93
36-36.9	.99	95
37-37.9	1.01	.97
38-38.9	1.03	.99
39-39.9	1.05	1 01
40 and over	1 07	1.03

Posted by Standard Oil Co. of Louisiana.

Homer, La.

	Jan. 1	Mar. 17
Below 25	.71	....
25-25.9	.73	....
26-26.9	.75	..
27-27.9	.77	....
28-28.9	.79	....
Below 29	....	.79
29-29.9	.81	.81
30-30.9	.83	.83
31-31.9	.85	.85
32-32.9	.87	.87
33-33.9	.89	.89
34-34.9	.91	.91
35-35.9	.93	.92
36-36.9	.95	.96
37-37.9	.97	.97
38-38.9	.99	.99
39-39.9	1.01	1.01
40 and over	1.03	1.03

Posted by Standard Oil Co. of Louisiana.

El Dorado, Ark.

	Jan. 1	Mar. 17
Below 25	.75	....
25-25.9	.77	....
26-26.9	.79	....
27-27.9	.81	....
28-28.9	.83	....
Below 29	.85	.79
29-29.9	.87	81
30-30.9	.89	.83
31-31.9	.91	.85
32-32.9	.93	.87
33-33.9	.95	.89
34-34.9	.97	.91
35-35.9	.99	93
36-36.9	1.01	.95
37-37.9	1.03	.97
38-38.9	1.05	.99
39-39.9	1.07	1.01
40 and over	1.09	1 03

Posted by Standard Oil Co. of Louisiana.

Haynesville, La.

	Jan. 1	Mar. 17
Below 25	.65	....
25-25.9	.67	....
26-26.9	.69	....
27-27.9	.71	....
28-28.9	.73	....
Below 29	....	.79
29-29.9	.75	.81
30-30.9	.77	.83
31-31.9	.79	.85
32-32.9	.81	.87
33-33.9	.83	.89
34-34.9	85	.91
35-35.9	.87	.93
36-36.9	.89	.95
37-37.9	.91	.97
38-38.9	.93	.99
39-39.9	.95	1 01
40 and above	.97	1.03

Posted by Standard Oil Co. of Louisiana.

Miller County, Ark.

	Jan. 1	Mar. 17
Below 25	.62	....
25-25.9	.64	....
26-26.9	.66	....
27-27.9	.68	....
28-28.9	.70	....
Below 29	....	.79
29-29.9	....	.81
30-30.9	.74	.83
31-31.9	.76	.85
32-32.9	.78	.87
33-33.9	.80	.89
34-34.9	82	.91
35-35.9	.84	.93
36-36.9	.86	.95
37-37.9	.88	.97
38-38.9	.90	.99
39-39.9	.92	1.01
40 and over	.94	1.03

Posted by Standard Oil Co. of Louisiana.

Cotton Valley, La.

	Jan. 1	Mar. 17
Below 25	.70	....
25-25.9	.73	....
26-26.9	.74	....
27-27.9	.76	....
28-28.9	.78	....
Below 29	....	.79
29-29.9	.80	.81
30-30.9	.82	.83
31-31.9	.84	.85
32-32.9	.86	.87
33-33.9	.88	.89
34-34.9	.90	.91
35-35.9	.92	.93
36-36.9	.94	.95
37-37.9	.96	.97
38-38.9	.98	.99
39-39.9	1.00	1 01
40 and over	1.02	1.03

Posted by Standard Oil Co. of Louisiana.

Slight Gain in Both Exports and Imports

(Continued from Page 44)

bearing on the export situation in this country during 1935, is coming from Iraq. This crude with its high sulphur content and low antiknock rating for the straightrun gasoline cut is not comparable in quality with East Texas and some of the other Mid-Continent crudes which have been sold in large quantities to foreign refiners over the past year. With adequate cracking and reforming equipment the Iraq crude oil is suitable for the manufacture of gasoline and many other products. Kerosene however could not be obtained except with an SO^3 operation or some other special treating process which adds to costs. It is also not a desirable crude from the standpoint of lubricating oil manufacture. It remains to be seen whether producers in the United States in the face of this additional competition can retain their foreign outlets for crude oil which in 1934 averaged approximately 120,000 bbls. daily.

Lubricating Oils and Gasoline

In the case of lubricating oils it seems reasonable to conclude that refiners in this country will have difficulty in maintaining the percentage of business outside the United States that they have in the past. In the early part of 1934 exports of lubricating oils were running far ahead of 1933. This situation changed so that later in the year exports were less than in 1933 and as shown in Table 1 for the entire 11 months there was a decrease of approximately 7 per cent. During the latter part of 1934 there were at least three foreign refiners which materially increased their outputput of lubricating oils. This does not include the increased output available from the U.S.S.R. This has tended to restrict the demand for lubricants manufactured in United States. A lubricating oil plant with a capacity of 1,000 bbls. daily is now under construction in England and it is known that three or four more plants are in prospect for Europe during 1935. This situation may increase the demand for certain crudes in United States which are desirable in the manufacture of lubricants but at the same time it will tend to further reduce the export outlets at refineries in this country. Since petroleum wax is largely a by-product of lubricating oils manufacture any expansion of the latter in foreign countries will tend to restrict the export requirements here.

In the case of gasoline, the export demand again decreased in 1934 and it is now less than 40 per cent of the peak of 1930. There is no indication that this trend will not continue in 1935. The increased production of low cost crudes in foreign countries which are suitable for the manufacture of gasoline, the expansion of foreign refining facilities aided by the nationalistic policies of certain countries, all point to a decreased demand for gasoline refined in the United States.

California Shipments

As shown in Table 3 there was a gain in 1934 of approximately 30 per cent in shipments of California products to Atlantic ports over 1933. The gain was all due to the increased shipments of fuel oil and gas oil. Gasoline shipments decreased 30 per cent in 1934 and kerosene shipments were approximately the same.

The gain in fuel shipments is largely accounted for by purchases made by the Standard of New Jersey from Standard of California and other west coast refiners. There was a shortage of heavy fuels along the Atlantic Seaboard the latter part of 1933 when the contracts for the California fuels were made. The bulk of the deliveries were made over the fore part of 1934 and it was during this period that the large gain over 1933 was shown. It is understood that these special purchases will decrease over the fore part of 1935 at least. Stocks of heavy fuels at Atlantic Seaboard refiners at this time are more than 60 per cent greater than they were a year ago based on the latest available government reports.

Harry C. Potts, center, vice president of Kerotest Manufacturing Co., Pittsburgh, Pa., Gordon Hess, left, assistant manager of sales, Alloy Steel Division of Republic Steel Corp.'n, Massillon, Ohio, and Shep. F. Miers, sales representative Kerotest Manufacturing Co., Pittsburgh

BELL REFINING OPERATIONS

CALGARY, Alberta, Jan. 26. — The Bell Refining Co., organized about three years ago with refinery at East Calgary, was the second largest purchaser of Turner Valley production in 1934, taking some 91,485 bbls. during the year. It takes production of the Spooner and Homestead companies, part of the output of the Mercury and Miracle wells, and part of the output of the Gas & Oil Products, Ltd., absorption plant. In addition it recently contracted for the output of Model Oils, Ltd., with two wells in North Turner Valley. Bell Refining Co. is controlled by Spooner Oils, Ltd.

PENN GRADE ACTIVITIES

Dr. F. L. Carnahan, chemical engineering instructor at the Pennsylvania State University was appointed research administrator for Penn Grade Crude Oil Association, projects at the college, to succeed M. B. McClure who resigned to join the technical staff of the Kendall Refining Co.

Directors of the association have increased the advertising appropriation to cover 6 major magazines and 12 trade papers and several regional newspapers.

Better Average Refined Oil Prices During 1934

(Continued from Page 42)

the quotations on both fuel oil and gas oil tending to move upward.

Lubricants

Neutral oils, particularly those used as a base for motor oils gave an excellent account of themselves in 1934 so far as prices were concerned. That was not true of the bright stock market and reflects the tendency of car manufacturers and the motoring public to favor low viscosity motor oils. The introduction of more delicately calibrated motor parts, higher speed engines and the use of greater pressures within the motor, has introduced new problems for the lubricating engineer. The year 1934 witnessed the large scale manufacture of solvent refined oils and these had the ability to maintain a lubricating film without the oil itself needing to be of high initial viscosity. In fact, the lower viscosity oils are needed in order to facilitate easy pumping the oil to the parts of the motor when the car is first started. A strong neutral market is expected throughout 1935 and the trend in bright stock manufacture appears to be toward the lighter grade and the operation will approach that used for processing a long residuum.

Wax

Wax also showed a substantial price advance in 1934 over the previous year. At New York the 120-122 American melting point grade sold for an average of $.0424 a pound in 1934 compared with $.0320 in 1933. The wax market in the Mid-Continent and Pennsylvania areas reflected similar strength.

Unusual Procedure for Pipe Line River Crossing

(Continued from Page 33)

held in position by wire wrapped around them. The pipe then was skidded to the creek by tractors and winches, run on floats constructed of air-tight oil drums, and floated across, the bends still being in a horizontal position. When the ends were in desired place, the pipe was permitted to turn downward into position on the bottom of the creek, and when the ends were tied into the line, the job was done.

As laid the entire length and weight of the pipe rests solidly on the bottom of the creek, conforming naturally to all the bends and variances in the depth of the bottom.

Lathing which covered the pipe as a protection to the coating material was left on the pipe. Although in time it no doubt will rot off, while it remains it will serve as continued protection for the coating under water. Bending of the pipe to the shape of the creek bottom involved no particular difficulties, the job being done by methods commonly used in cold bending of pipe on any pipe line project.

INTERESTING TEST

Double end rig with rotary housed in shed at right and cable tools at left of derrick. Drilling at 8,530 feet on John I. Moore et al's No. 1 L. S. McDowell, Section 22, Block 34, Township 2s, T.&P. Survey, Glasscock County, Texas.

PATENTED

Our 3600 Type of Return Bend is covered by U. S. Pat. No. 1,987,300, granted after priority of invention was awarded to Frederick E. Key in a keenly contested interference proceeding in the Patent Office extending over several years, the application having been made on October 26, 1928.

Our method of jigging and assembling these Sectional Type Return Bend Fittings onto the tubes is covered by U. S. Patent No. 1,746,535.

Series 3600 Sectional Type Return Bend Fitting

KEY BOILER EQUIPMENT CO.

EAST ST. LOUIS . . . . . ILLINOIS, U.S.A.

California's Petroleum Industry Enjoyed a Year of Improved Prices; Increase in Field Work

By L. P. STOCKMAN
Staff Correspondent, California Fields

In contrast with the chaotic conditions which existed during the previous several years, 1934 stands out as one of the most constructive periods in the California oil industry. Crude oil curtailment was far more effective than before, especially during the last half of the year, and the refined price structure subsequent to operation of the marketing agency was greatly improved. During the early part of the year, unrestricted and highly competitive conditions drove the price of gasoline down to a point substantially below costs but this uneconomic condition was rectified late in June through organization of the Pacific Coast Petroleum Agency. The stability that prevailed during the last six months of the year, due to the stabilizing influence of the marketing agreement, is quite conspicuous in contrast with the demoralized conditions existing during the first half and the outlook for the forthcoming six months is exceedingly promising. Crude oil prices remained unchanged throughout the year as the price schedule issued September 6, 1933, is still in effect. A supplementary schedule covering initial postings for crude oil in the Edison and Mountain View Fields was issued in 1934.

Crude oil production during 1934 was slightly in excess of the 173,083,319 bbls. recorded in 1933 due primarily to an overage in the first half of the year before the Pacific Coast Petroleum Agency became effective. Stocks were substantially reduced during the year and this has been reflected in slightly higher prices for certain commodities. Stocks of fuel oil, gasoline and naphtha distillates registered large declines due to regulation of refinery operations and the movement of 11,915,857 bbls. of fuel oil to the East Coast for domestic consumption. Intercoastal shipments of gasoline to the Atlantic Seaboard during 1934 were substantially below comparable data for the previous year but, on the other hand, shipments of fuel oil to foreign ports showed an increase of almost 60 per cent over 1933.

CALIFORNIA FIELD OPERATIONS BY MONTHS FOR YEAR 1934

1934—	Wells completed— No.	Bbls.dly.	Wells— Drlg.	Producing	Abandoned— Drlrs.	Prodcrs.	New Rigs
January	30	43,957	161	10,605	23	23	59
February	21	10,418	180	10,624	7	13	28
March	25	30,976	183	10,780	9	16	40
April	29	49,516	187	10,831	25	10	42
May	43	83,009	188	10,909	10	24	58
June	35	26,334	200	11,007	6	8	52
July	25	35,896	211	11,245	17	9	46
August	33	64,699	206	11,261	26	9	56
September	45	57,709	215	11,263	25	20	56
October	54	41,526	210	11,327	27	20	65
November	62	64,127	199	11,390	39	7	72
December	50	52,570	214	11,399	33	41	66
Total 1934	452	570,637			247	200	641
Total 1933	248	274,104			163	215	354
Total 1932	184	156,823			191	172	219
Total 1931	246	364,434			238	177	259
Total 1930	755	584,521			254	320	964
Total 1929	910	1,307,496			314	212	1,306

Drilling Operations Up

Drilling operations showed a substantial increase during the past year and every indication points to the probability that exploration work will continue at a high rate during 1935. As we go into the new year, those in close touch with the situation are firmly convinced that drilling operations in proven fields and wildcat exploration during the next 12 months will be greatly in excess of similar work during 1934. This reaction is the logical outcome of the failure of prospectors to discover new prolific fields during the past few years coincident with an increasing demand for crude oil. Neither Mountain View or Edison, the only two new fields in the ascendency, will meet requirements and consequently it is obligatory that operators resume drilling operations in existing fields and step out with an aggressive wildcat drilling program.

New Fields Needed

Every major company is anxious to increase its reserves as the inability to open new fields is causing no little anxiety. This is bound to exert a very favorable effect on the price of crude and refined oil and at the same time stabilize conditions in general. Of course, the Kettleman North Dome Field is capable of producing a sufficient amount of crude oil to make up for any deficiency but operators want reserves of a grade of crude that will yield a higher amount of fuel oil as this commodity is beginning to bear a part of the refining cost now that the going price is materially higher than that which has prevailed during the past few years.

Fuel Oil Stronger

For a long time, California refiners have been forced to practically give away fuel oil with the result that gasoline, lubricating oil and other by-products have been obliged to bear the greater part of refining and marketing costs. The rising price of fuel oil has eased up the picture because if fuel oil, gas oil and Diesel oil can be marketed at cost or better, gasoline costs decline proportionately. It has been found very conclusively during the past few years that no one commodity can bear more than a fair share of the cost of refining if one expects to show a profit from marketing operations. One must have a well rounded market for each product refined from the barrel of crude oil.

The movement of fuel oil to the Atlantic Seaboard in 1934 greatly alleviated conditions in California and despite the probability that very little fuel oil will be moved to the East Coast in 1935 marketers anticipate greatly improved conditions in the fuel oil market. A considerable part of the fuel oil lifted in California last year destined for the domestic market along the Atlantic Seaboard was sold at a loss although the sales converted stocks into liquid assets. Some of the fuel oil sold to this trade was put into storage when crude oil prices were considerably higher than at present.

California Crude Oil Production, January-December, 1934, Inclusive

(Barrels of 42 U. S. gallons)

Northern fields—	January	February	March	April	May	June	July	August	September	October	November	December	Total
Belridge-North	215,132	190,189	224,621	199,779	218,005	168,243	177,511	175,195	149,793	150,612	160,122	163,570	2,192,772
Belridge-South	45,303	53,664	63,884	62,143	66,057	61,074	68,237	63,050	57,138	62,416	57,392	76,476	734,864
Coalinga	491,735	420,171	515,840	487,706	533,536	619,933	660,709	597,852	575,424	581,480	555,442	555,133	6,594,950
Edison	.....	.....	.....	.....	.....	.....	7,387	2,185	19,331	32,720	28,147	46,022	135,792
Elk Hills	352,564	292,502	342,741	327,252	277,292	256,865	271,340	243,749	248,625	246,714	236,672	249,156	3,345,772
Fruitvale	124,351	97,711	115,546	111,567	117,660	120,431	122,499	100,975	103,651	106,707	112,315	109,311	1,342,724
Kern River	271,136	256,344	292,726	278,831	319,816	326,347	331,091	336,351	320,309	331,081	316,431	323,934	3,704,447
Kettleman Middle Dome	13,434	10,749	8,350	6,640	8,186	6,112	5,214	5,221	12,095	17,574	18,757	15,666	127,998
Kettleman North Dome	1,583,936	1,352,795	1,692,159	1,675,564	1,826,201	1,834,465	2,077,044	1,981,680	1,816,211	1,820,695	1,752,089	1,828,045	21,265,884
Lost Hills	86,350	73,735	105,458	107,831	115,962	132,315	146,016	138,481	138,866	140,865	136,829	140,745	1,463,453
McKittrick	81,040	81,959	98,273	97,216	96,973	95,727	97,485	90,906	87,861	91,339	90,350	97,389	1,105,618
Midway-Sunset	1,629,531	1,423,136	1,672,684	1,628,041	1,767,250	1,724,317	1,766,936	1,658,580	1,622,310	1,670,997	1,558,375	1,589,409	19,712,566
Mountain View	81,102	103,528	123,626	175,924	193,501	228,293	198,409	225,332	279,624	303,951	350,271	346,457	2,609,017
Mount Poso	250,681	225,366	253,785	263,196	268,000	317,964	335,623	306,738	292,466	313,074	307,040	352,284	3,486,217
Round Mountain	155,666	144,489	185,880	151,318	154,431	150,466	157,583	138,408	139,284	137,219	149,056	144,512	1,808,322
Wheeler Ridge	13,682	12,271	15,554	12,939	13,694	13,101	13,270	13,377	12,162	12,985	12,567	12,692	156,204
Coastal fields—													
Capitan	10,129	8,482	10,579	10,228	15,957	17,201	20,159	18,894	16,375	25,281	18,472	22,657	194,414
Elwood	387,593	358,132	379,878	351,934	360,170	348,385	361,449	387,366	286,746	294,941	297,602	299,448	4,113,644
Rincon	46,020	43,345	47,377	51,023	47,476	43,828	47,634	44,403	37,879	42,232	45,823	43,338	540,580
San Miguelito	25,816	26,352	28,735	20,938	22,452	20,739	28,569	22,898	15,220	18,978	18,538	19,418	268,643
Santa Barbara	17,692	21,284	15,867	16,574	28,909	29,894	30,049	49,810	58,105	79,142	129,885	130,934	598,165
Santa Maria	154,584	128,595	144,851	145,247	152,310	162,979	166,736	165,393	141,284	147,934	148,163	147,031	1,806,106
Summerland	2,083	1,843	2,073	1,964	1,161	1,606	1,616	1,825	1,514	1,764	1,316	1,274	20,039
Ventura Avenue	996,069	837,855	987,282	831,829	828,581	803,871	890,346	847,214	103,297	711,238	731,170	722,862	9,832,614
Ventura-Newhall	99,468	98,189	105,159	109,930	116,937	120,817	121,791	136,979	109,471	124,254	119,103	127,941	1,400,039
Watsonville	1,860	1,630	1,860	1,800	1,860	1,800	1,860	1,860	1,800	1,860	1,800	1,860	21,900
Southern fields—													
Brea Olinda (Fullerton)	274,463	246,166	282,714	280,031	321,793	350,001	371,362	348,052	309,324	315,478	319,567	325,597	3,744,538
Coyote-East	51,691	54,216	58,858	72,889	80,370	95,822	92,842	85,134	78,934	77,837	79,068	79,672	907,334
Coyote-West	256,373	228,548	264,026	263,892	259,212	309,008	304,110	293,640	256,806	262,423	266,542	273,122	3,236,702
Domingues	503,339	452,191	552,872	614,867	531,229	606,762	617,848	603,371	519,926	529,756	546,515	571,789	6,655,465
Huntington Beach	1,195,087	1,088,804	1,243,723	1,190,477	1,292,463	1,423,197	1,455,286	1,372,692	1,187,438	1,217,537	1,177,182	1,262,382	15,106,268
Inglewood	281,840	249,976	288,324	275,394	243,801	284,894	309,246	293,061	279,741	284,630	285,740	299,789	3,376,596
Lawndale	5,170	4,454	5,399	4,257	4,343	4,698	4,280	4,729	4,345	4,250	3,813	2,902	53,640
Long Beach	1,806,284	1,696,206	1,930,121	2,008,036	2,113,767	2,165,108	2,096,388	1,948,362	1,804,392	1,860,188	1,833,697	1,901,536	23,067,025
Los Angeles-Salt Lake	22,867	21,862	26,468	22,669	24,868	24,105	24,839	24,060	24,272	24,033	24,257	24,854	289,154
Montebello	154,885	142,269	158,531	153,451	159,963	163,524	171,186	169,150	166,648	178,893	172,031	191,422	1,980,942
Newport	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Playa Del Rey	290,122	247,655	279,438	293,125	282,434	267,942	270,129	258,687	220,652	228,171	284,292	365,133	3,187,773
Potrero	12,223	11,090	12,947	14,041	13,676	12,359	12,920	11,998	9,407	12,779	12,902	13,744	150,084
Richfield	230,119	209,548	223,689	237,972	246,834	253,460	266,195	266,584	242,843	249,683	244,354	253,720	2,925,001
Rosecrans	86,492	73,979	76,840	81,623	80,775	87,454	99,478	92,378	88,958	91,252	89,183	89,425	1,037,817
Santa Fe Springs	1,282,947	1,156,791	1,299,104	1,287,753	1,294,120	1,354,260	1,286,201	1,240,623	1,125,426	1,130,777	1,165,808	1,198,454	14,722,264
Seal Beach	333,652	293,898	339,107	331,085	320,552	301,207	303,761	264,846	246,584	263,268	247,782	269,715	3,515,457
Torrance	204,324	180,899	198,061	193,329	215,253	219,178	227,600	224,713	217,735	222,548	206,209	216,242	2,525,996
Whittier	34,443	31,863	34,957	32,480	33,982	32,947	33,879	31,735	27,528	32,209	33,702	33,751	393,476
Total, 1934	14,163,463	12,593,784	14,710,467	14,472,785	15,070,718	15,466,656	16,054,232	15,291,637	14,052,800	14,453,794	14,335,381	14,842,804	175,508,566
Daily average 1934	456,886	449,778	474,531	482,426	486,152	515,556	517,878	493,279	468,427	466,251	477,846	478,800	480,845
Daily average 1933	466,461	468,109	432,741	475,431	477,988	473,155	488,414	501,188	489,129	473,065	464,452	475,022	474,201
Daily average 1932	501,037	504,030	502,449	517,481	502,443	470,632	471,856	478,708	473,371	471,860	471,413	470,207	486,488
Daily average 1931	531,758	533,248	527,898	526,785	530,612	521,381	519,139	505,451	506,020	504,903	499,922	501,967	517,346
Daily average 1930	709,137	745,916	635,483	625,625	614,337	600,693	606,517	605,499	599,477	588,518	603,648	573,765	624,931
Daily average 1929	754,385	796,454	784,589	776,502	775,915	820,821	864,407	878,495	870,142	867,586	710,585	700,179	800,101

In addition to this, marketers have paid city and county taxes on it and absorbed other costs resulting from seepage and evaporation and pipe line handling charges.

Marketing Agreement

Organization of the Pacific Coast Petroleum Agency was one of the outstanding events of 1934 in California because this agreement between refiners and marketers has proven to be a stabilizing influence of great importance and without it conditions on the Pacific Coast would still be in a deplorable state of affairs. Refined oil prices have been exceptionally stable since the agreement became effective as signatories agreed to conform with ethical marketing practices and refrain from overproducing or using any crude oil produced in excess of the amount stipulated by the petroleum administrator. Major companies agreed to supply independent refiners with sufficient crude oil and natural gasoline to meet normal requirements and to purchase any unsold gasoline that the independent refiner failed to dispose of through normal channels. During the six months that the agreement has been in effect, major companies have delivered about 1,000,000 bbls. of crude oil to various independent refiners and have in turn purchased a substantial quantity of unsold gasoline. In addition, the agency has accepted deliveries of fuel oil, kerosene distillate and gas oil at prices which it has posted from time to time.

The Pacific Coast Petroleum Agency became effective at 12 a.m. June 25, 1934, by action of the directors following modification of the consent decree in the Federal Court at San Francisco and approval by the petroleum administrator. W. C. Van Fleet, who had resigned as executive secretary of Regional Marketing Committee No. 6 on May 1, 1934, was elected general manager of the agency, and he has made an excellent record during his incumbrance in office. Control and management of the agency is vested in a board of directors which consists of one governor appointed by each of the members consisting of the Associated Oil Co., General Petroleum Corp., Gilmore Oil Co., Shell Oil Co., Richfield Oil Co., Mohawk Oil Co., Rio Grande Oil Co., Rocket Oil Co., Seaside Oil Co., Signal Oil & Gas Co., Standard Oil Co., Sunset Pacific Oil Co., Union Oil Co. and the Texas Co.

Production

Long Beach headed the production list during 1934 followed by the Kettleman North Dome, Midway-Sunset, Huntington Beach, Santa Fe Springs and Ventura Avenue Fields. The Edison Field, located a few miles east of the Mountain View Field in Kern County, did not become a factor of any consequence during the past year and development work up to the present indicates that it will only be of secondary importance from a production standpoint. The Mountain View Field, reflecting the completion of numerous prolific wells, showed a consistent increase in both actual and potential production and would have made a much better showing if operators had been allowed to produce at a fair rate.

The Santa Barbara Mesa Field, which was revived after dormancy of a couple of years, also experienced a substantial increase in actual and potential production and would have greatly exceeded the production credited to it if operators had been allowed to do so. Late in the year, the central committee decided to recommend that this and other heavy oil fields be given a higher allowable and, if this recommendation is approved by the petroleum administrator, Santa Barbara Mesa will far exceed its current production during the forthcoming year. Due to the increasing demand for fuel oil for both domestic consumption and export, it is quite likely that a change will be made in the method of allocation early in 1935 with the result that some of the fields now held down by stringent curtailment will show a much larger production. This is particularly true of Santa Barbara Mesa, Mount Poso, Edison, Kern River and other fields in the heavy oil class.

TOTAL FLUID STOCKS OF PETROLEUM HELD IN PACIFIC COAST TERRITORY IN 1934 (Barrels)

	Heavy crude and fuel	Refinable crude	Gasoline	Naphtha distillates	All other stocks	Total all stocks
Jan. 31	90,140,028	35,644,592	15,924,219	1,417,035	6,775,955	149,901,829
Feb. 28	87,239,167	35,119,809	16,675,477	1,454,966	6,845,517	147,324,936
Mar. 31	84,536,718	35,842,081	15,890,300	1,092,520	6,784,811	144,146,430
Apr. 30	82,416,946	35,658,654	15,240,473	1,087,446	6,771,065	141,214,584
May 31	80,365,963	35,366,352	15,242,364	1,064,221	7,091,292	139,130,192
June 30	78,906,268	35,500,861	14,882,732	1,173,145	7,110,744	137,573,740
July 31	78,448,445	35,851,686	15,550,459	1,215,191	7,218,639	138,414,420
Aug. 31	76,348,570	36,281,340	15,018,608	1,124,460	7,357,355	136,130,333
Sept. 30	75,173,752	36,833,951	14,764,506	1,046,348	7,646,644	135,470,201
Oct. 31	73,604,524	37,238,451	13,617,517	989,230	7,816,768	133,266,530
Nov. 30	69,567,429	37,304,353	12,672,095	985,555	7,613,648	128,143,080
Dec. 31	67,182,258	37,549,934	12,790,317	928,052	7,767,755	126,218,317

Increased Potential

California's potential daily production increased 230,589 bbls. during 1934, rising from 1,202,881 bbls. in January to 1,310,065 bbls. in June and to 1,433,470 bbls. in December. The potential showed a consistent increase from month to month throughout the year with the largest part of the gain registered during the last six months. Several fields showed an increase in their respective potentials although three stood out in bold relief because of the amounts involved. The Kettleman North Dome Field showed an increase in potential production of 126,685 bbls., almost 50 per cent, as this district was credited with being able to produce 341,500 bbls. per day in January, 402,260 bbls. in June and 468,185 bbls. during December. Early in the year, it had been estimated that the potential of the North Dome would reach the 500,000-bbl. mark before the advent of 1935 but delayed completions prevented fulfillment of the prediction by 31,815 bbls. per day.

Well potentials are established in California, as a general rule, by a five-day open flow test and consequently in most cases the potential assigned a field represents a careful compilation. The potential ratings of several fields appear to be somewhat excessive and consequently a number of operators discount the present rated potential of the State. This is not the case with the North Dome of Kettleman Hills, however, as the potential of this field seems to be right in line. The Mountain View Field of Kern County was another district that registered a substantial increase in potential during 1934. In January, this field had a rated potential of 4,350 bbls. per day but, due to subsequent completions, this increased to 15,950 bbls. in June and 41,210 bbls. in December, a net gain during the year of 36,860 bbls. per day.

Santa Barbara Up

Potential daily production of Santa Barbara Mesa rose from 825 bbls. in January to 1,700 bbls. in June and to 12,040 bbls. in December.

The State's allowable daily production of crude oil ranged from a low of 437,600 bbls. to a high of 509,400 bbls., although actual production, due to the refusal of several operators to conform with curtailment, was consistently in excess of the stipulated amount. The established allowable daily production during 1934 was January, 437,600 bbls.; February, 437,600 bbls.; March, 453,900 bbls.; April, 462,500 bbls.; May, 462,500 bbls.; June, 500,300 bbls.; July, 509,400 bbls.; August, 490,200 bbls.; September, 457,000 bbls.; October, 452,300 bbls., and November 462,000 bbls. The daily allowable for December was split and thus we find the allowable for the first 16 days set at 456,800 bbls. and 473,900 bbls. for the last 15 days.

Development Work

Only one new oil field, Edison, was discovered in California during 1934, although a wildcat of the Ohio Oil Co. appears to have opened up a new gas field in the Buena Vista Lake area of Kern County. The Edison Field made its debut early in the year but notwithstanding this it failed to register substantial production due partly to the severe curtailment placed on it. From present indications and in view of development undertaken up to the present time, this field will prove to be somewhat smaller than originally expected and of secondary importance from a production standpoint. The areal limits have been fairly well defined although there is room for quite a number of these shallow wells within the confines of the field as outlined at the present time.

The discovery well in the Edison Field of Kern County was No. 3 Duff of the Monterey Exploration Co. in Section 15-30-29. This well proved up the existence of two productive horizons at Edison, one producing heavy oil and the other a somewhat lighter grade. No. 3 Duff was drilled to 2,067 feet and completed March 15, 1934, pumping 200 bbls. of 15.2 gravity oil per day after the hole had been plugged back to 2,027 feet. The hole was subsequently redrilled and deepened to 3,342 feet but plugged back to 3,280 feet. On May 10, 1934, the well was recompleted flowing 375 bbls. of clean 21 gravity oil per day. The pipe record in this well consisted of 210 feet of 16-inch, 1,880 feet of 11¾-inch and 3,030 feet of 8⅝-inch

Extension Work

Late in 1934, Charles W. Fourl focussed the attention of operators on the Playa Del Rey Field of Los Angeles Basin by completing an outpost up on the Palisades in the extreme eastern end of the field flowing 5,775 bbls. of 22.3 gravity oil per day from a depth of 6,526 feet. This proved to be one of the best wells ever finished in the field and consequently leasing activities were greatly stimulated and drilling operations immediately undertaken on adjacent property. The proximity of town lot acreage has retarded development work to date as the Los Angeles city council has indicated that it will lift the zoning restrictions only after it has promulgated regulations. It is quite likely that these regulations will prohibit the drilling of a well on any property comprising less than one acre. This will prevent a repetition of the deplorable conditions which have resulted in the older section of the field. It will probably be another several weeks before any tangible evidence is available with respect to the amount of additional productive acreage that has been added to the field as a result of this completion.

The Ohio Oil Co. has apparently discovered a new gas field in the extreme eastern end of Buena Vista Lake in Kern County although this will not be definitely determined until another test or two have been drilled. The Ohio's initial well in this area showed a potentiality of 7,600,000 feet of natural gas per day from 5,302 feet after the casing had been perforated at 5,180-5,239 feet. Standing shut in, the well shows a casing pressure of 2,160 pounds. After discovering the existence of a possible commercial accumulation of gas, the company decided to drill ahead in order to determine whether there was any oil present. Accordingly, drilling operations were resumed and the well carried down to 7,957 feet at which point mechanical trouble developed which necessitated plugging the hole back to the depth mentioned above. The Ohio is expected to drill another test in this area early in 1935. The Shell Oil Co. subsequently paid a cash bonus of $100,000 for a lease on 4,000 acres located south and west of the Ohio's acreage and a test is now under way.

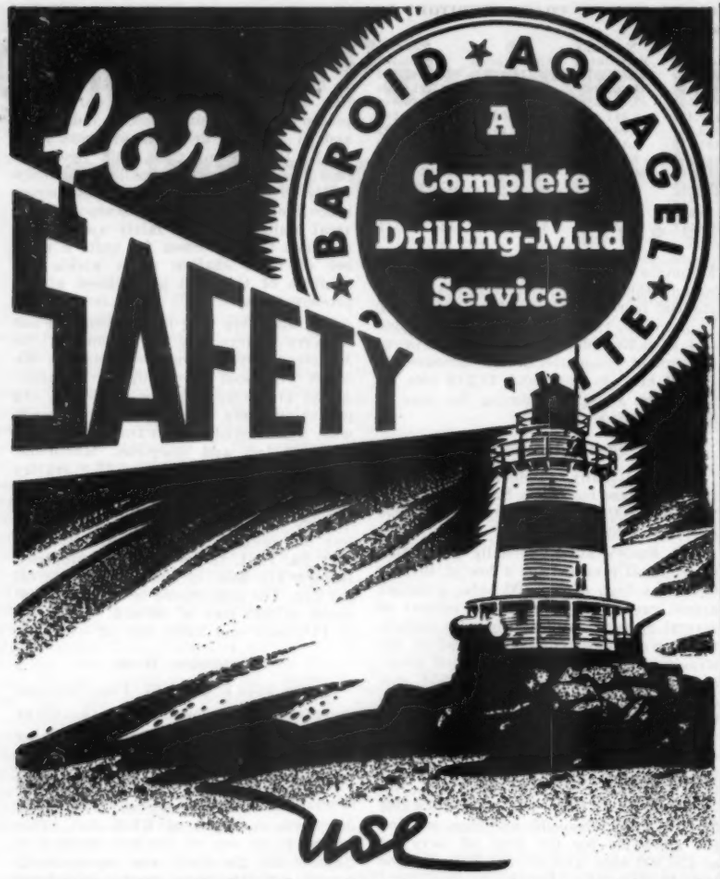
Deep Zone Failure

Failure of the deep Crus zone in the Montebello Field of Los Angeles Basin to show commercial production was one of the outstanding disappointments in prospecting work during 1934. Judged by every indication, this zone should have proved to be of first importance but, despite the fact that several deep tests

CALIFORNIA FIELD OPERATIONS BY DISTRICTS, YEAR 1934

	Wells comp.		Oil and gas wells*		Abandoned		New rigs
Northern—	No.	Bbls. dly.	Drlg.	Producing	Drillers	Producers	
Belridge—North	4	21,677	4	21	1	1	8
Belridge—South	...	.....	1	116	...	1	...
Buttonwillow gas field	...	.....	...	...	...	...	...
Coalinga	1	55	...	919	1	7	2
Dudley Ridge gas field	...	.....	2	....	3	1	4
Edison	11	3,287	4	4	6	1	30
Elk Hills	...	.....	...	189	...	1	1
Fruitvale	8	4,685	2	63	4	4	10
Kern River	5	681	...	1,293	...	7	9
Kettleman Middle Dome	1	1,250	1	1	...	...	1
Kettleman North Dome	41	286,592	25	66	1	...	41
Lost Hills	...	.....	...	302	...	...	2
McKittrick	2	194	1	188	3	2	6
Midway-Sunset	11	3,715	6	2,388	9	26	26
Mountain View	49	70,881	16	24	6	...	74
Mount Poso	44	23,773	6	135	10	2	59
Round Mountain	3	870	1	42	2	...	6
Wheeler Ridge	...	.....	...	34	...	...	...
Total	180	417,660	69	5,785	46	53	279
Coastal—							
Capitan	5	2,442	1	9	...	...	5
Elwood	9	8,839	4	51	...	1	12
Goleta gas field	...	.....	1	....	...	...	2
Rincon	1	24	...	31	2	...	...
San Miguelito	1	323	1	3	1	...	1
Santa Barbara	39	32,242	6	24	1	4	55
Santa Maria	5	421	2	178	7	5	6
Summerland	1	Gas	...	23	...	...	...
Ventura Avenue	12	12,693	12	173	1	6	10
Ventura-Newhall	7	303	10	461	25	15	15
Watsonville	...	.....	...	7	...	...	...
Total	80	57,297	37	960	37	31	106
Southern—							
Brea Olinda (Fullerton)	2	1,759	1	350	1	2	3
Coyote—East	3	175	1	71	1	...	3
Coyote—West	9	4,078	3	31	...	1	8
Dominguez	27	19,176	7	63	4	...	24
Huntington Beach	28	26,937	5	465	17	15	18
Inglewood	8	10,151	4	204	3	1	11
Lawndale	...	.....	...	7	...	2	...
Long Beach	83	19,843	24	1,064	19	12	95
Los Angeles-Salt Lake	...	.....	...	150	...	35	...
Montebello	9	2,479	7	168	2	2	13
Newport	...	.....	...	....	...	...	...
Playa Del Rey	6	5,486	1	166	4	7	15
Potrero	...	.....	...	11	1	2	...
Richfield	...	.....	...	232	8	6	...
Rosecrans	...	.....	1	61	6	3	...
Santa Fe Springs	16	2,540	5	521	6	17	15
Seal Beach	1	65	1	117	1	1	...
Torrance	...	.....	...	465	2	6	...
Whittier	...	.....	...	155	...	...	...
Miscellaneous	...	.....	30	....	89	...	47
Total	192	95,680	90	4,308	164	116	256
State total	452	570,637	196	11,053	247	200	641

*Monthly average.



BAROID PRODUCTS

TO INSURE THE SAFETY OF YOUR DRILLING INVESTMENT IN 1935

THE best resolution you can make for 1935 is to use BAROID, AQUAGEL and STABILITE to condition your mud when drilling.

These quality products, proven throughout the oil fields of the world, will solve your mud problems and pay for themselves many times over by savings effected.

And so we repeat — use BAROID products in 1935 for safer, quicker drilling. You'll find them the best investment you could possibly make!

Stocks carried and Service Men available in all active oil fields. Experienced counsel gladly furnished without obligation. Mud tested at your well.

BAROID PRODUCTS

BAROID . . *Extra-Heavy Colloidal Drilling Mud*
AQUAGEL . *Trouble-Proof Colloidal Drilling Mud*
STABILITE . *An Improved Chemical Mud Thinner*

BAROID SALES CO.

LOS ANGELES ● HOUSTON

National Pigments & Chemical Co., St. Louis

have been drilled, the Cruz zone has not yet been located.

The Universal Consolidated's deep zone discovery, located in the extreme eastern end of the Montebello structure was good for 1,000 bbls. per day from 7,010 feet but wells drilled on adjacent property within a few hundred feet failed to even find the oil sand. As wells were drilled nearer the apex of the structure, based on contours of the upper zone, the markers got deeper and the oil sand was absent. This led the Universal to the decision, after a careful survey of conditions, that the Cruz zone must extend east of No. 1 Cruz, the discovery well, instead of toward the old field to the west as had originally been believed. A projected deep test was accordingly started to determine the accuracy of this deduction but it will be some time late in February before this will be definitely determined. The most interesting situation in connection with this deep zone is the fact that the Universal's deep zone discovery well showed commercial production out on the edge of an old field while tests drilled structurally higher were unable to even find the sand. The Wilshire Oil Co. drilled a deep test in the Potrero Field of Los Angeles Basin during 1934 but this hole has so far proven to be a dud with the outlook not any too promising.

Mountain View

The areal limits of the Mountain View Field of Kern County were extended to the northwest during 1934 but during the latter part of December developments tended to indicate that the outer limits of commercial production had just about been reached. The slow rate at which drilling operations are proceeding in this field makes it rather difficult to definitely determine the turning point but the high water cut in one or two wells tends to indicate that the limits of production are not far away. The Union Oil Co. should determine the western limits within a short time as its No. 1-B on the K.C.L. lease is located almost a mile northwest of present production.

Deep Drilling

The General Petroleum established a new deep drilling record in 1934, when it bottomed No. 1 Berry in the South Belridge Field of Kern County at 11,377 feet. Mechanical trouble prevented a successful production test and so the potentiality of the deep horizon in this field is still problematical.

Difficulty will be experienced in cleaning out this hole, if work is ever resumed, as the heavily fortified drilling fluid is not only well packed off but is in all probabilities baked hard. Extremely high temperatures, up to 380° F., were encountered and for this reason it is extremely doubtful if the hole can ever be cleaned out especially since it contains several thousand feet of pipe.

Field Operations

There were 452 new oil wells finished during 1934 and they showed a total initial daily production of 570,637 bbls. This is exclusive of the numerous recompletions chalked up during the same period and does not include any of the many cleanout jobs or holes that were redrilled and deepened from one zone to another. In addition to the new wells completed there were 247 drilling projects abandoned and 200 old producing wells plugged and abandoned. Wildcat mortality continued at a high rate as there were 80 exploratory wells abandoned against which only one minor oil field and a possible gas field can be credited as new discoveries. There were 641 new rigs erected during the year.

SPECIAL SERVICE BUREAU

A system of Special Service Bureaus for the petroleum industry has been organized by C. M. Sutherland of Nebraska. Mr. Sutherland, who was formerly with the Nebraska Petroleum Marketers, will issue as his first service, a series of letters covering the fiftieth session of the Nebraska legislature.

Hope Less Diversion of Motor Fuel Taxes

Apportionment of $125,000,000 for federal aid to the states in highway construction in the fiscal year beginning July 1, 1935, marked the resumption of the old policy of federal highway aid. The apportionment was made by Henry A. Wallace, secretary of agriculture, under the Hayden-Cartwright Act of June 18, 1934.

Secretary Wallace, in making the apportionment, called attention to the possibility of reduction of a state's apportionment through the operation of the provision in the Hayden-Cartwright Act relative to the diversion of gasoline taxes and other taxes on motorists. The act provides that federal aid for a state's highways shall be reduced unless the state uses for highways at least the amounts provided by law on June 18, 1934, for that purpose from the state's gasoline and motor vehicle taxes and other special taxes on motor vehicle owners.

The apportionment is as follows:

State—	Sum apportioned
Alabama	$2,604,320
Arizona	1,781,347
Arkansas	2,142,723
California	4,756,959
Colorado	2,288,811
Connecticut	791,253
Delaware	609,375
Florida	1,655,723
Georgia	3,168,231
Hawaii	609,375
Idaho	1,531,162
Illinois	5,160,696
Indiana	3,087,613
Iowa	3,231,718
Kansas	3,317,054
Kentucky	2,304,143
Louisiana	1,776,930
Maine	1,090,167
Maryland	1,025,870
Massachusetts	1,741,877
Michigan	3,837,292
Minnesota	3,423,306
Mississippi	2,196,524
Missouri	3,800,856
Montana	2,560,449
Nebraska	2,581,663
Nevada	1,596,501
New Hampshire	609,375
New Jersey	1,675,751
New Mexico	1,999,299
New York	6,150,106
North Carolina	2,938,657
North Dakota	1,960,162
Ohio	4,565,435
Oklahoma	2,947,521
Oregon	2,044,633
Pennsylvania	5,348,062
Rhode Island	609,375
South Carolina	1,692,896
South Dakota	2,036,775
Tennessee	2,638,159
Texas	7,777,504
Utah	1,410,752
Vermont	609,375
Virginia	2,278,475
Washington	1,949,957
West Virginia	1,356,793
Wisconsin	3,045,567
Wyoming	1,559,444

HUMBLE TO EMPLOY 100 MEN

Humble Oil & Refining Co. will give employment to 100 men at its Baytown refinery, it was announced by R. E. Powell, superintendent of the refinery. The employment will be in the mechanical department and will be of temporary nature, he said. East Harris County unemployed men will be given preference.

Sol Sanders, left, superintendent for the Guiberson Oil Corp.'n Longview, Texas, and Del Crosby, scout for the Humble Oil & Refining Co., Corsicana, Texas

Rainbow Pool in Arkansas Only New Discovery in the Big Shreveport Five-State Division

By J. R. CRUMPTON
Staff Correspondent, Louisiana-Arkansas

Arkansas and North Louisiana completed more wells last year than in 1933 but with the exception of the Rainbow Pool in Union County, Arkansas, no new fields were opened in either state. Mississippi showed a decline in operations and only seven new gassers, and Alabama had another year of failure in the search for oil, with four tests abandoned.

Throughout the year the wildcatting campaign on the Sabine uplift in North Louisiana was pursued in all the nine parishes covering the uplift especially on the east and south flanks. Three wells drilled deeper in old proven areas resulted in one oil well and two gassers. In the old Noborton Field, northeast of Mansfield, Bailey Gaunce's No. 1 Jenkins, Section 35-13-12, was completed as a 6,000,000-foot gas well from 3,577 feet. S. J. Barber's No. 1 Tom Haton, Section 4-11-11, in the old Dolet Hills area, tested 5,000,000 feet of gas from 2,734 feet. The Sunrise Oil Co.'s No. 1 B. Y. Wemple, Section 14-12-11, was a 75-bbl. pumper from 2,665 feet.

Sabine Parish was the most active area in the State last year with 172 completed wells of which 97 were oil wells with an average production per well of 125 bbls., or 12,195 bbls. initial production for all of them. January and March saw the completion of the biggest new producers in the county. The last half of the year, while it showed no let up in the number of wells completed, showed a falling off in new production. The use of acid in completing wells in the Annona chalk in the Converse Pool in Sabine Parish had a good effect in increasing initial production.

Attempts were made by operators in the Converse Pool to find production in a sand underlying the Annona chalk but all they got was salt water. The Zwolle Pool, in Sabine Parish, showed higher initial production than in Converse, but the acid treatment of wells in Zwolle was not as uniformly successful as in the Converse area.

Search for Trinity Sand Oil

The search of Trinity sand oil production which has been going on for years did not uncover anything of importance during the year. One of these Trinity tests in the fore part of the year drew considerable attention. R. W. Norton's No. 1-B J. B. French, in Section 34-23-16, in the Rodessa gas field in the northwestern part of Caddo Parish, tested a core of oil sand from 6,527-34 feet, and could have made a small producer but the hole was deepened to 6,717 feet where casing trouble developed. The well was finally plugged back to 5,825 feet with perforated pipe up to 5,500 feet and completed at the former depth as a small gasser. The results of the test revealed to operators in that field that a series of gas bearing sands exists below the Oolitic lime from which formation all previous wells had been completed. Following the completion of the Norton well, two good gas wells were brought in from the sand in the Rodessa area. United Gas Public Service Co. No. 1 Sallie Dees, Section 28-23-16, had an initial flow of 64,000,000 feet from 5,850 feet, and the Arkansas-Louisiana Pipe Line Co.'s No. 1 Rodessa Land & Oil Co., Section 23-23-16, flowed 49,000,000 feet from sand at 5,626 feet. The latter well extended production 1½ miles northeast.

In the Haynesville Pool a second deep test was made in the early part of the year, but with small success. The Haynesville Partnership's No. 1 Anna Taylor, Section 11-23-8, on the northern edge of the field just outside of Blossom production, contacted Oolitic lime in the Glen Rose around the 4,300-foot level and tested salt water with a show of oil from 4,379-4,408 feet. The well finally completed as a 31-bbl. pumper from a total depth of 4,595 feet.

Gasser in Trinity Sand

A successful Trinity sand gas test was completed in the Sligo area in Bossier Parish in the first half of the year. It was good for 16,000,000 feet of gas in upper Trinity at 4,250 feet. This well had an immense gas blowout, estimated at 40,000,000 feet, from the upper part of the lower Cretaceous between the Woodbine and Trinity at 3,220 feet. After setting casing to test this horizon, the well flowed by heads 60 bbls. of 42 gravity oil daily from 3,225 feet. The previous gas show was practically absent and it is thought that the gas sand was cut off by the casing.

No new fields were uncovered in this district but deeper gas was proven in the upper Trinity in the Sligo Field, Bossier Parish, at around 4,300 feet, and the Rodessa gas field, in northwestern Caddo Parish, was extended 2 miles northeast and over into Cass County, East Texas.

Wildcatting in North Louisiana was consistently active during the last six months but no results were obtained even with several 5,000-foot holes.

Wildcatting during 1935 is expected to cover a wide area over the entire northwestern part, known as the Sabine uplift and deeper drilling will feature the Cotton Valley Field, Webster Parish. One major company is now leasing with the expectation of drilling to 10,000 feet but primarily to test the 7,000-foot level where a good sand was cored in a test several years ago.

NORTH LOUISIANA
Summary of Wells Completed in 1934

Parish—	Comp.	Prod.	Dry	Gas
Bienville	4	0	4	0
Bossier	41	326	18	5
Caddo	72	366	23	34
Caldwell	2	0	2	0
Catahoula	0	0	0	0
Claiborne	3	31	1	1
De Soto	25	120	20	3
East Carroll	3	0	2	1
Grant	1	0	1	0
Jackson	1	0	1	0
Lincoln	2	0	2	0
Morehouse	6	0	1	5
Natchitoches	4	0	4	0
Ouachita	25	0	3	22
Rapides	3	0	3	0
Red River	11	40	9	0
Richland	1	0	0	1
Sabine	170	12,195	72	1
Tensas	1	0	1	0
Union	8	0	2	5
Vernon	1	0	1	0
Webster	7	50	6	0
Winne	4	0	4	0
La Salle	1	25	0	0
Total 1934	396	13,153	180	77

Summary by Months

Month—	Comp.	Prod.	Dry	Gas
January	26	2,935	10	4
February	34	1,531	13	4
March	40	3,091	20	2
April	24	850	11	2
May	31	1,445	17	1
June	34	1,022	10	14
July	36	304	24	3
August	35	736	16	5
September	39	342	18	11
October	34	372	16	10
November	33	290	13	11
December	30	235	12	10
Total 1934	396	13,153	180	77
Total 1933	343	19,795	193	48
Difference	53	6,642	13	29

(Continued on Next Page)

North Louisiana

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
CADDO (Light):													
Daily average	4,615	4,611	4,510	4,532	4,704	4,712	4,616	4,584	4,473	4,451	4,446	4,846	
Month	143,065	129,108	139,810	135,960	141,120	141,360	143,096	141,484	134,190	137,981	133,380	150,195	1,670,749
CADDO (Heavy):													
Daily average	1,392	1,455	1,584	1,625	1,577	1,549	1,561	1,572	1,568	1,613	1,641	1,742	
Month	43,152	40,740	49,104	48,750	47,310	46,470	48,391	48,732	47,040	50,003	49,230	54,033	572,955
BELLEVUE:													
Daily average	.....	.....	.....	.....	.....	.....	.....	265	293	471	513	524	
Month	.....	.....	.....	.....	.....	.....	.....	8,215	8,790	14,601	15,540	16,244	63,390
CONVERSE:													
Daily average	1,152	1,111	1,352	1,388	1,513	1,519	1,740	1,897	1,836	1,557	1,414	1,324	
Month	35,712	31,108	41,912	41,640	46,390	45,570	53,940	58,807	55,080	48,267	42,420	41,044	540,890
COTTON VALLEY:													
Daily average	533	549	540	564	559	556	532	505	494	495	502	444	
Month	16,523	15,372	16,740	16,920	16,770	16,680	16,492	15,655	14,820	15,345	15,060	13,764	190,141
DE SOTO-RED RIVER:													
Daily average	1,510	1,507	1,508	1,533	1,515	1,511	1,476	1,439	1,415	1,460	1,556	1,471	
Month	46,810	42,196	46,748	45,990	45,450	45,330	45,756	44,609	42,450	45,260	46,680	45,801	542,830
ELM GROVE:													
Daily average	344	339	348	351	360	357	388	410	408	389	365	368	
Month	10,664	9,492	10,788	10,530	10,800	10,710	12,028	12,710	12,240	12,059	10,950	11,408	134,379
HAYNESVILLE:													
Daily average	3,761	3,755	3,742	3,680	3,968	3,880	3,846	3,787	3,755	3,746	3,746	3,683	
Month	116,591	105,140	116,002	110,400	115,770	116,400	119,226	117,397	112,650	116,126	112,380	114,173	1,372,256
HOLLY:													
Daily average	202	196	141	186	185	197	181	176	160	165	158	165	
Month	6,262	5,488	4,371	5,580	5,550	5,910	5,611	5,456	4,800	5,115	4,740	5,115	63,998
HOMER:													
Daily average	2,606	2,620	2,612	2,645	2,655	2,906	2,760	2,673	2,652	2,697	2,679	2,664	
Month	80,786	73,360	80,972	79,350	79,650	87,180	85,560	82,863	79,560	83,607	80,370	82,584	975,842
PLEASANT HILL:													
Daily average	219	230	215	211	219	216	210	203	206	196	184	190	
Month	6,789	6,440	6,665	6,330	6,570	6,480	6,510	6,293	6,180	6,076	5,520	5,890	75,743
SAREPTA-CARTERSVILLE:													
Daily average	784	847	794	751	746	752	703	655	636	678	597	564	
Month	24,304	23,716	24,614	22,530	22,380	22,560	21,793	20,305	19,080	19,468	17,910	17,484	256,144
URANIA:													
Daily average	3,112	3,019	2,940	2,815	2,864	2,918	2,960	3,116	3,153	3,265	3,311	3,308	
Month	96,472	84,532	91,140	84,450	88,920	87,540	91,760	96,596	94,590	101,215	99,330	102,548	1,116,093
ZWOLLE:													
Daily average	7,337	7,837	6,893	5,827	4,926	4,590	3,816	3,210	2,968	2,772	2,859	3,458	
Month	227,447	219,436	213,683	174,810	147,780	137,700	118,296	99,510	89,040	85,932	78,198	1,675,602	
Daily average	27,567	28,076	27,179	26,108	25,682	25,663	24,789	24,472	24,017	23,905	23,976	23,751	25,346
Total 1934	854,577	786,128	842,549	783,240	770,460	769,890	768,459	758,632	720,510	741,055	719,280	736,281	9,251,061
Total 1933	918,932	843,500	981,212	903,660	829,374	759,270	784,052	817,191	772,940	796,018	774,510	796,574	9,979,767
Total 1932	897,393	824,412	866,636	869,580	915,802	895,440	925,529	910,193	893,740	927,613	891,870	908,765	10,731,373
Total 1931	1,274,255	1,229,788	1,247,130	1,170,330	1,219,106	1,086,780	1,047,242	941,346	886,680	899,930	875,910	856,871	12,737,468
Total 1930	1,163,554	1,138,396	1,271,465	1,258,500	1,225,701	1,200,630	1,253,113	1,280,393	1,194,060	1,296,202	1,322,400	1,328,549	14,943,964
Total 1929	1,114,171	990,024	1,109,986	1,069,200	1,097,121	1,068,960	1,110,172	1,125,486	1,037,250	1,324,717	1,147,200	1,196,879	13,291,166
Total 1928	1,389,146	1,313,555	1,369,115	1,411,890	1,393,034	1,372,040	1,306,433	1,246,206	1,177,920	1,196,669	1,165,400	1,155,091	15,367,493
Total 1927	1,589,122	1,474,004	1,589,711	1,511,250	1,469,710	1,435,020	1,751,376	1,748,067	1,567,320	1,591,347	1,506,210	1,469,950	18,703,087
Total 1926	1,343,788	1,288,080	1,511,219	1,556,580	1,830,705	1,809,180	1,780,175	1,761,513	1,703,190	1,801,224	1,696,411	1,689,644	19,771,640

Arkansas

The first half of the year in Arkansas was uneventful. Only 30 wells were completed as against 57 in the last half of the year, and the 1,695 bbls. of initial production from the 11 oil wells drilled in the first six months compared unfavorably with the 7,452 bbls. of initial output in the last half. The new Rainbow Pool in Union County was mainly responsible for the increase. The Urbana Field, which had been shut down for two years because of no outlet for its production, was given a market early last year and began producing from 2,000 to 3,000 bbls. per day and in the course of the year marketed 836,592 bbls. production.

Production in Arkansas last year held up very well. The total crude output was 11,359,458 bbls. as against 11,449,635 bbls. in 1933. The average daily decline amounted to only 247 bbls., and production in December was a little higher than in January, 11 months previously. In fact, production at the close of 1934 was at a higher point than at any other time of the year.

The discovery of a series of deeper paying sands in the Rainbow Field, Union County, Arkansas, during the last few months of the year featured developments in that district. Pay is still coming from Red Bed formation, and like the original production is spotted and inconsistent, but the field is getting a good play.

A shallow wildcat at 1,369 feet, producing 17 gravity oil, brought in 5 miles west of Camden in Ouachita County, started off pumping 50 bbls. daily but an offset test failed to find any sand.

Wildcatting in Arkansas was carried on along the Balcones Fault Line in Miller and Lafayette Counties but all the tests were dry.

The Miller County Field, east of Texarkana, reported a number of good pumpers but no extensions of note to the limited productive area.

The discovery well in the Rainbow Field was Short & Hayes' No. 1 J. W. Taylor, Section 10-17-14, flowing 866 bbls. in 24 hours, was brought in on November 10.

In Ouachita County's wildcat producer listed as T. J. Gaughan's No. 1 Bragg, Section 25-13-18, was completed December 25.

ARKANSAS

Summary of Wells Completed in 1934

County—	Comp.	Prod.	Dry	Gas
Ashley	2	0	2	0
Columbia	4	15	3	0
Hempstead	3	0	3	0
Jefferson	2	0	2	0
Lafayette	6	0	6	0
Lee	1	0	1	0
Lonoke	1	0	1	0
Miller	26	2,645	13	0
Nevada	1	15	0	0
Ouachita	6	40	3	0
Union	30	6,432	13	0
Woodruff	1	0	1	0
Calhoun	2	0	2	0
Bradley	1	0	1	0
Conway	1	0	1	0
Total 1934	87	9,147	52	0

Summary by Months

Month—	Comp.	Prod.	Dry	Gas
January	6	0	6	0
February	6	755	2	0
March	3	50	2	0
April	5	100	4	0
May	1	0	1	0
June	5	760	4	0
July	9	710	4	0
August	11	225	9	0
September	9	290	6	0
October	9	610	4	0
November	6	925	3	0
December	13	4,692	7	0
Total 1934	87	9,147	52	0
Total 1933	48	477	42	0
Difference	39	8,670	10	0

East Texas, Border Counties

The East Texas border counties were practically inactive with only a few rigs running. Alabama recently reported two new wildcat tests, one in Covington County and one in Conecuh County.

EAST TEXAS GAS AREA

Summary of Completed Wells in 1934

County—	Comp.	Prod.	Dry	Gas
Panola	8	15	5	2
Cass	5	0	5	0
Shelby	2	0	2	0
Harrison	1	0	1	0
Total 1934	16	15	13	2

Summary by Months

Month—	Comp.	Prod.	Dry	Gas
January	2	15	1	0
February	1	0	1	0
March	2	0	1	1
April	3	0	2	1
May	0	0	0	0
June	2	0	2	0
July	2	0	2	0
August	1	0	1	0
September	0	0	0	0
October	1	0	1	0
November	0	0	0	0
December	2	0	2	0
Total 1934	16	15	13	2
Total 1933	25	65	22	0
Difference	9	50	9	2

Mississippi

Mississippi experienced a dull year with exception of the southern part of the State where several major companies hold large blocks of acreage and are drilling core tests but no information on the logs is available. Also, several large blocks have been assembled in the northern part of the State near Memphis.

MISSISSIPPI

Summary of Wells Completed in 1934

County—	Comp.	Prod.	Dry	Gas
Franklin	1	0	1	0
Greene	2	0	2	0
Issequena	1	0	1	0
Madison	1	0	1	0
Clarke	1	0	1	0
Hinds	7	0	2	5
Lamar	2	0	2	0
Marion	1	0	1	0
Newton	1	0	1	0
Pike	1	0	1	0
Rankin	8	0	6	2
Scott	1	0	1	0
Simpson	1	0	1	0
Tallahatchie	1	0	1	0
Wayne	1	0	1	0
Wilkinson	1	0	1	0
Warren	1	0	1	0
Total	32	0	25	7

Summary by Months

Month—	Comp.	Prod.	Dry	Gas
January	3	0	3	0
February	3	0	3	0
March	1	0	1	0
April	4	0	2	2
May	3	0	3	0
June	4	0	3	1
July	2	0	2	0
August	4	0	3	1
September	5	0	3	2
October	1	0	1	0
November	0	0	0	0
December	2	0	1	1
Total 1934	32	0	25	7
Total 1933	42	150	26	16
Difference	10	150	0	9

ALABAMA

Summary of Wells Completed in 1934

County—	Comp.	Prod.	Dry	Gas
Baldwin	2	0	2	0
Washington	1	0	1	0
Clarke	1	0	1	0
Total 1934	4	0	4	0

Summary by Months

Month—	Comp.	Prod.	Dry	Gas
January	1	0	1	0
June	1	0	1	0
August	2	0	2	0
Total 1934	4	0	4	0
Total 1933	3	0	2	0

MISSOURI GEOLOGY

The biennial report of H. A. Buehler, state geologist for Missouri, has been transmitted to the Missouri Fifty-eighth General Assembly and will be available for distribution about January 28. The report covers the work of the geological department for 1933-1934 and seven short reports giving results of recent field and and laboratory investigations: Oil and gas possibilities of an undeveloped structure in Andrew County; oil and gas developments in Missouri during 1933-1934; underground water resources of St. Louis city and county; high alumina or diaspore clays of the north central Ozark region; and water supply possibilities from preglacial channels, now filled with sand and gravel, in northwest Missouri. Copies may be had for 10 cents postage

A. E. DIETERICH DIES

SAN FRANCISCO, Calif., Jan. 26.—Alfred Elliott Dieterich, 57, millionaire natural gas and oil man of New York and Montecita, Calif., died in a hospital here. He was the son of C. H. Dieterich, who made millions in the development of natural gas, public utilities and oil. Alfred Dieterich was a graduate of Columbia University college of mines.

NO NEW FISH STORIES? HUH, JUST READ THIS!

McALLEN, Tex., Jan. 26.—They're through with a fishing job over at the Kingwood No. 1 Daskam in the Sam Fordyce Field. Got the fish and have resumed drilling.

How unusual!

Oh, don't get sarcastic. The fish they were after was a real fish. Fins, gills and all.

You see, salt water obtained from a nearby wildcat caused so much boiler trouble that a water line was laid to the Rio Grande. The pumps sucked up something that clogged the pipe and drilling was halted till the obstruction could be fished out.

It was a catfish—a wildcat fish as it were.

A.P.I. PRODUCTION COMMITTEE

F. E. Wood, of the Standard Oil Co. (Indiana), Chicago, has been selected national chairman of the American Petroleum Institute's Central Committee on Drilling and Production Practice for 1935. T. V. Moore, Humble Oil & Refining Co., Houston, Tex., is vice chairman.

National chairmen of topical committees follow: Drilling practice, W. T. Doherty, Humble Oil & Refining Co., Houston; production practice, D. R. Knowlton, Phillips Petroleum Co., Bartlesville, Okla.; allocation of production, F. E. Wood; metallurgy and corrosion of oil field equipment, B. B. Wescott, Gulf Research & Development Corp., Pittsburgh, Pa.; development and production research, G. V. D. Marx, Standard Oil Co. of California, San Francisco, Calif.; well spacing, R. D. Wyckoff, Gulf Research & Development Corp., Pittsburgh, Pa.; production records, J. French Robinson, Peoples Natural Gas Co., Pittsburgh, Pa.; and production nomenclature, J. F. Dodge, University of Southern California, Los Angeles, Calif.

Mr. Moore was elected chairman of the program committee for 1935, with Mr. Wood, ex-officio. Members are: C. E. Beecher, Empire Cos., Bartlesville, Okla.; Mr. Doherty; H. N. Marsh, General Petroleum Corp. of California, Los Angeles, Calif.; E. W. Master, Shell Oil Co., Los Angeles; and A. C. Rubel, Union Oil Co. of California, Los Angeles.

WELDING CONFERENCE

The first annual Welding Conference on Electric and Oxy-Acetylene welding will be held at Texas Technological College, Lubbock, Tex., February 14 and 15.

Arkansas

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
CHAMPAGNOLLE:													
Daily average	1,271	1,207	1,185	1,234	1,285	1,309	1,260	1,194	1,144	1,095	1,491	3,564	
Month	39,401	33,796	36,735	37,020	38,550	39,270	39,060	37,014	34,320	33,945	44,730	110,484	524,325
EL DORADO:													
Daily average	2,480	2,448	2,437	2,471	2,466	2,477	2,456	2,407	2,408	2,395	2,376	2,307	
Month	76,880	68,544	75,547	74,130	73,980	74,310	76,136	74,617	72,240	74,338	71,100	71,517	882,339
LISBON:													
Daily average	407	402	395	377	374	354	357	360	357	361	362	356	
Month	12,617	11,256	12,245	11,310	11,220	10,620	11,067	11,160	10,710	11,191	10,860	11,005	135,261
MILLER COUNTY:													
Daily average	911	968	1,233	892	827	818	1,540	1,312	1,596	1,457	1,305	1,275	
Month	28,241	27,104	38,223	26,760	25,110	24,540	47,740	40,672	47,880	45,167	39,150	42,625	423,213
NEVADA:													
Daily average	544	538	811	775	901	917	923	919	862	875	887	924	
Month	11,864	15,064	25,141	23,250	27,930	27,510	28,985	28,489	25,860	27,125	26,610	28,644	300,572
SMACKOVER (Light):													
Daily average	2,546	2,485	2,477	2,419	2,368	2,436	2,420	2,395	2,327	2,322	2,311	2,306	
Month	78,926	69,580	76,787	72,570	71,040	73,080	75,020	74,245	69,810	71,982	69,330	71,486	872,856
SMACKOVER (Heavy):													
Daily average	20,687	20,207	19,439	19,807	19,787	19,800	19,835	19,606	19,426	19,088	18,957	18,928	
Month	641,297	565,796	604,159	594,210	593,610	594,000	615,009	607,786	582,780	591,728	568,710	586,768	7,145,853
STEPHENS:													
Daily average	642	645	644	605	610	607	619	615	610	627	631	611	
Month	19,902	18,060	19,964	18,150	18,300	18,210	19,189	19,065	18,300	19,437	18,930	18,941	226,448
URBANA:													
Daily average	2,364	2,358	2,248	2,047	2,067	2,076	2,372	2,592	2,612	2,360	2,302	2,272	
Month	73,284	65,024	69,658	61,410	62,010	62,280	73,532	80,352	75,360	73,160	69,060	70,432	836,592
Daily average	31,852	31,258	30,919	30,627	30,695	30,794	31,798	31,400	31,242	30,583	30,616	32,642	31,132
Total 1934	987,412	875,234	955,489	918,810	920,850	923,820	985,738	973,400	937,260	948,073	918,480	1,011,902	11,359,458
Total 1933	993,457	840,208	493,702	909,120	928,667	901,770	946,926	971,292	953,580	1,017,885	986,916	1,016,118	11,449,635
Total 1932	1,101,616	1,008,563	1,062,897	1,048,620	1,064,602	1,032,976	1,060,336	1,062,897	1,019,250	1,019,931	1,020,600	1,037,539	12,529,870
Total 1931	1,574,955	1,402,492	1,469,245	1,412,220	1,446,274	1,344,450	1,287,585	1,165,569	1,128,380	1,172,389	1,130,700	1,082,148	15,626,407
Total 1930	1,817,685	1,608,376	1,817,871	1,724,460	1,659,895	1,704,060	1,713,680	1,700,102	1,583,280	1,626,552	1,557,870	1,590,951	20,114,782
Total 1929	2,453,526	2,154,194	2,303,734	2,188,680	2,220,155	2,112,270	2,137,047	2,086,083	1,959,720	2,000,027	1,911,061	1,917,071	25,443,570
Total 1928	2,791,922	2,571,575	2,687,948	2,472,600	2,843,447	3,075,911	2,792,139	2,711,787	2,540,070	2,652,848	2,476,080	2,521,571	32,137,934
Total 1927	4,076,469	3,574,256	3,853,920	3,378,240	3,493,669	3,365,760	3,406,683	3,242,600	3,032,970	3,117,298	2,906,760	2,962,750	40,411,375
Total 1926	5,489,604	4,756,836	5,115,937	5,137,510	5,482,939	5,064,766	5,019,892	4,878,191	4,603,238	4,625,138	4,299,430	4,366,189	58,729,666

SUPREME IN SERVICE

Claims of superiority may sell drill pipe and casing *once*, but only superior performance in service will keep them sold. For years many experienced producers have ordered and re-ordered Pittsburgh Seamless Drill Pipe and Casing because of its supremacy in service . . . its ability to go farther and last longer. Service tells the story.

PITTSBURGH STEEL COMPANY

PITTSBURGH • PENNSYLVANIA

New York Detroit Chicago St. Louis
Tulsa Los Angeles Houston

Pittsburgh Seamless

DRILL PIPE
CASING
TUBING

1934—a year of

Why shouldn't THE OIL AND GAS JOURNAL think so, with all three of its departments having made truly unprecedented progress?

Our Advertising Manager remarks:

For the year just past, the Journal's volume of display advertising increased to the extent of 526 13/24 pages, thus registering a clear gain of 36.1% over the 1933 volume. Classified advertising similarly indicated the upward trend, with its gain of 719 inches, the extent of the increase over 1933's volume being 40.5%. And the number of advertising accounts placed exclusively with the Journal demonstrates its progress overwhelmingly. 540 pages of advertising appeared exclusively in the Journal for the year. This advertising represented 191 exclusive accounts—a larger figure than shown by the combined exclusive accounts of the three competing papers! Aren't those substantial gains?

ADVERTISING GAINS

36.1% more display advertising; 40.5% more classified advertising; 191 exclusive accounts

Says our Circulation Manager:

A year ago our loyal subscribers gave us a renewal figure of 74.74%, the highest the Journal had ever achieved. But even six months ago our June publisher's statement (most recent A.B.C. data available) showed that our readers had increased the renewal rate by the substantial margin of 2.41%, and set a new high of 77.15%. This record was made without use of renewal premiums or any other stimulus except the intrinsic merit of the Journal, and with a subscription price six times that of the three competing publications. Also our average total net paid subscriptions for 1934 exceed 1933's figure by 872. Certainly 1934 shows tangible gains for the Circulation Department!

CIRCULATION GAINS

77.15% renewals—highest figure ever attained in history of this paper; 872 new subscribers

THE OIL AND

TULSA HOUSTON FORT WORTH WASHINGTON SHREVEPORT LOS ANGELES

Notable GAINS!

And the Editor comments:

The Diamond Jubilee Number was the oil industry's Gem of the Year. Containing 338 pages, and 270 of those pages comprising the First Complete History of the Oil Industry, this issue was received enthusiastically and enjoyed by oil men in every branch of this business.

The Journal's World Issue—most complete collection of worldwide facts and photographs ever published, and featuring a Catalog Section printed in four languages—stands as another valuable 1934 number which other oil papers did not even attempt to imitate.

And the Pipe Line Number was a truly notable issue, with its personnel list, twenty individual pipe line system maps, and 36 x 48 pipe line wall map of the United States. This map, giving all oil, gasoline, and natural gas trunk pipe lines (each identified as to ownership), is the only map of its kind published from any source, governmental or private.

EDITORIAL GAINS

Eleven outstanding editorial achievements not offered by any other paper in the oil industry

The Annual Refinery Number set even higher the fine standards established by past issues of that number. Its personnel list and plant survey is of course the only one of its kind. The number and quality of the technical articles in that issue make it an invaluable source of dependable information for every refinery man.

The Natural Gasoline Plant Survey, with list of personnel, is another outstanding feature of the Journal's 1934 schedule. This material likewise is not available elsewhere.

The Annual Number and the Semi-Annual Number, offering complete reviews of production, completions, prices and price changes, pipe lines, etc., also stand alone as the only sources of this exacting and vitally important information.

The Journal was the only publication to print, verbatim, all the important court decisions rendered in oil cases during 1934.

An original weekly full-page cartoon, on significant points of current oil news, appeared only in the Journal. No other oil publication offers this feature.

The Journal was the first oil paper to sense the danger of Federal control and wage a relentless campaign against that peril during 1934.

Far more production information was printed in the Journal during 1934 than in any other publication in this industry. Likewise, the Journal dominated in the quantity of refinery and marketing facts presented during the same year.

In 1934, as in all other years, the Journal was still the only oil publication to print complete reports on all oil fields in the United States and Canada.

Are these not truly important editorial gains?

To the subscribers and advertisers whose friendly allegiance has made these gains possible, the Journal extends its warmest thanks. It feels free to believe that this loyalty was not blind, but well-considered; that in each case self-interest, as well as friendship, was a factor—and the Journal would not have it any other way! Only where this paper has rendered notable service does it deserve your support, for thus our gains are likewise yours. And 1935 shall see that fine service become still finer!

GAS JOURNAL

DENVER CHICAGO OIL CITY MUSKEGON TOLEDO PITTSBURGH CHATHAM

Field Work More Than Doubled in North Central and Panhandle Texas in 1934; New Pools

By L. E. BREDBERG

The North Texas, Central Texas and Texas Panhandle Fields, spurred on by better oil prices and the approaching need of new known reserves of oil conducted a lively drilling campaign last year which reminded oil operators of the pre-depression days. The result of the renewed activity was a considerable number of new pools, none of them however being of large calibre, a fact that will keep up the keen search for new production in the present year.

North Texas produced 22,053,368 bbls. in the year, an increase over 1933 production of 3,367,144 bbls. The Panhandle Fields produced 20,352,910 bbls., an increase of 3,749,384 bbls. over 1933. Central Texas' crude output of 10,758,384 bbls. was 2,753,384 bbls. more than it produced in 1933.

Archer County, especially the lime pay areas, was by far the most active county in North Central Texas district during 1934. There were 963 wells completed in that county, of which 290 were dry. Many large wells were completed in the lime areas of the Bell County, Falls County and Anderson County school lands, where acid was used in treating nearly every well before completion.

The Waggoner Refining Co. withdrew as a purchaser in Wichita and Wilbarger Counties on September 10, cutting loose from 4,000 bbls. per day, but the Magnolia Pipe Line Co. and Stanolind Pipe Line Co. stepped in to help the operators out of this situation. The Waggoner plant at Electra again started taking around 2,000 barrels per day a few weeks after it was shut down, thereby restoring the situation to normalcy.

2,000 Bbl. Discovery Well

Activities in Archer County were spurred to a high pitch during the year when R. W. Busby and associates drilled in a 2,000 bbl. well in Block 18, on the J. L. Anderson Ranch, north of Olney, total depth of 1,423 feet. Treatment with acid brought out this good production which was followed by a heavy drilling campaign in the immediate area, and in various lime areas in the county. Many good wells were completed in the lime horizons during the year.

New Pool in Olney

Eight miles south of Olney, in Young County, Beavers and others opened a new pool on the Remington Farm in the Texas Immigration Lands. Pay was topped at 560 feet, and the well completed for 40 barrels per day at 570 feet. Another pool in the county during the year was discovered by the Associated Developers Co. on the R. F. Sparks Farm in the west half of T. E. & L. Survey No. 286. The Strawn sand was logged from 2,952 to 2,954 feet in this new well. Hazel F. Sparks also added a pool to Archer County in her No. 1 Ward in the south half of T. E. & L. Survey No. 1,382. This well made 100 barrels initial production from sandy lime logged at 951-62 feet, and after treating with acid.

Shackelford Busy Area

Shackelford was one of the most active counties in the Ranger or West Central Texas during the year. There were 174 tests put down in 1934, whereas in 1933 there were only 88. Seventy-five of the completions in 1934 were dry and abandoned, but several extensions were drilled and small new areas were also opened. W. J. Rhodes opened a new pool on the G. Ray farm in Section 208, Block 10, E. T. Railway Survey, logging a sand from 1,644-47 feet, the well making 35 bbls. per day, initial production.

NORTH CENTRAL TEXAS

Summary of Completion by Counties

County—	Comp.	Prod.	Dry	Gas
Archer	963	103,480	290	0
Baylor	1	0	1	0
Brown	51	538	31	4
Callahan	34	208	24	3
Clay	14	261	11	0
Coleman	35	311	15	10
Comanche	2	0	1	1
Cooke	28	2,635	17	1
Denton	2	0	2	0
Eastland	26	125	8	9
Foard	4	4,775	0	0
Grayson	2	0	2	0
Jack	85	1,793	62	2
Johnson	1	0	1	0
McCulloch	1	0	1	0
Montague	68	14,195	24	1
Palo Pinto	22	196	7	6
Parker	3	0	2	1
Shackelford	174	4,664	75	0
Stephens	8	71	2	1
Taylor	1	0	1	0
Throckmorton	12	31	9	1
Wichita	177	3,598	95	1
Wilbarger	122	12,163½	47	0
Wise	2	0	2	0
Young	342	11,369	173	2
Total 1934	2,179	160,403½	903	44

Summary of Operations by Months

Month—	Comp.	Prod.	Dry	Gas
January	150	12,029	54	6
February	149	10,553	66	6
March	140	10,312	45	0
April	175	16,212	63	2
May	352	23,110	106	9
June	214	19,163	81	0
July	238	26,911	88	2
August	166	8,456½	58	4
September	154	6,868	71	5
October	167	6,199	89	2
November	176	6,502	72	5
December	198	14,058	80	3
Total 1934	2,179	160,403½	903	44
Total 1933	1,163	44,184	608	31
Difference	1,016	116,219½	295	13

Extension in Jack County

Production was extended in Jack County during the year when C. S. Leidecker brought in a well for 198 bbls. in 12 hours at 3,218-21 feet. Location was in T. E. & L. Survey No. 274. The Bryson Pool is the nearest production, about 9,000 feet to the south.

Montague Renews Activity

Montague County rejoined the list of active counties during the year, as did Cooke County, several good wells being brought in in the latter county. The Texas Company's No. 1 O'Neal, in the Ed O'Connor Survey, Montague County, made a 75-bbl. well from a new sand found at 1,730-39 feet, during the fore part of the year. This well extended production from the Bulcher Pool in northwest Cooke County, and started the drilling of a number of wells in the vicinity of the discovery and between the two areas. An offset produces from the 1,500 foot sand. Seitz and Dillard's No. 1 Holtt, in the southeast corner of the north half of the same survey, also extended production when it logged the sand at 1,611-18 feet and made a small well, swabbing 200 bbls. per day.

A "grass roots" pool, which has yielded a few small wells, was brought in on the J. M. Bloodworth lands in the J. Irvine Survey, 12 miles northwest of Jacksboro in Jack County during the early part of the year. The shallow sand was logged around 280 feet, the wells making all the way from 25 to 120 bbls. per day, pumping. The oil tested 41 degrees gravity, and is hauled to a refinery by trucks.

Brown and Coleman

Drilling activities slumped in Brown and Coleman Counties during the year, but the latter county received a couple of new pools and the latter saw a new pool opened 1½ miles northwest of the Brenecke Pool and 3 miles northwest of Santa Anna. The latter

North Texas

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
WICHITA COUNTY:													
Burkburnett—													
Daily average	3,206	3,155	3,007	3,098	3,107	3,088	3,080	2,893	2,511	2,381	2,253	2,255	
Month	99,386	88,340	93,217	92,940	96,317	92,640	95,480	89,683	75,330	73,811	67,590	69,905	1,034,639
Electra—													
Daily average	7,396	7,473	7,536	7,786	7,342	7,750	7,059	7,092	7,081	6,962	7,224	7,220	
Month	229,276	209,244	233,616	233,580	227,602	232,500	218,829	219,852	212,430	215,822	216,720	223,820	2,673,291
Iowa Park-K.M.A.—													
Daily average	2,088	2,233	2,172	2,191	2,219	2,246	2,340	2,224	2,321	2,322	2,328	2,281	
Month	64,728	62,524	67,332	65,730	68,789	67,380	72,540	68,944	69,630	71,982	69,840	70,711	820,130
Sunshine Hill—													
Daily average	455	449	413	404	473	462	421	434	424	404	404	401	
Month	14,105	12,572	12,803	12,120	14,663	13,860	13,051	13,454	12,720	12,524	12,120	12,431	156,423
Miscellaneous—													
Daily average	2,205	2,253	2,326	2,268	2,394	2,366	2,257	2,401	2,260	2,252	2,249	2,311	
Month	68,355	63,056	72,106	68,040	74,214	70,980	69,967	74,431	67,800	69,812	67,470	71,641	837,872
ARCHER COUNTY:													
Daily average	16,351	17,121	18,352	19,112	19,026	18,779	21,096	22,250	21,345	20,349	17,205	19,682	
Month	506,881	479,468	568,912	573,360	589,806	563,370	653,976	689,750	640,350	630,819	516,150	610,142	7,023,184
CLAY COUNTY:													
Daily average	528	560	558	561	559	554	592	561	526	532	547	530	
Month	16,368	15,680	17,298	16,830	17,329	16,620	18,352	17,081	15,780	16,492	16,410	16,430	200,670
WILBARGER COUNTY:													
Daily average	8,027	8,367	8,435	8,125	8,241	8,262	8,134	8,873	8,585	8,575	8,414	8,430	
Month	248,837	234,276	261,485	243,840	255,571	247,860	252,154	275,063	256,050	265,826	252,420	261,330	3,057,771
MONTAGUE COUNTY:													
Daily average	4,131	4,458	4,409	4,497	4,471	4,480	4,302	4,558	4,160	4,474	4,376	4,759	
Month	128,061	124,824	136,679	134,910	138,601	134,400	133,362	141,298	124,800	138,694	131,280	147,529	1,614,433
YOUNG COUNTY:													
Daily average	9,408	10,004	10,330	10,565	10,549	10,117	9,641	9,767	10,068	9,849	9,586	9,578	
Month	291,648	280,112	320,230	316,950	327,019	303,510	298,871	302,777	302,040	305,319	287,580	296,918	3,632,974
BAYLOR COUNTY:													
Daily average	203	255	260	232	241	239	269	295	289	271	263	249	
Month	6,293	7,140	8,060	6,960	7,471	7,170	8,339	9,145	8,670	8,401	7,890	7,719	93,258
COOKE COUNTY:													
Daily average	1,610	1,577	1,620	1,594	1,580	1,576	1,569	1,508	1,604	1,560	1,534	1,705	
Month	49,910	44,156	50,220	47,820	48,980	47,280	48,639	46,748	48,120	48,360	46,020	52,855	579,108
FOARD COUNTY:													
Daily average	550	816	815	817	575	588	1,247	1,249	1,994	1,278	932	958	
Month	17,050	22,848	25,265	24,510	17,825	17,640	38,657	38,719	59,820	39,618	27,960	29,698	329,610
Daily average	56,158	58,730	60,223	61,253	60,877	60,507	62,007	64,095	62,118	61,209	57,317	59,359	60,420
Total 1934	1,740,893	1,644,440	1,867,223	1,837,590	1,887,187	1,815,210	1,922,217	1,986,945	1,863,540	1,897,479	1,719,510	1,871,129	22,053,368
Total 1933	1,568,693	1,424,220	1,566,120	1,538,340	1,520,023	1,404,090	1,463,696	1,528,703	1,548,450	1,725,460	1,664,940	1,735,489	18,686,224
Total 1932	1,587,262	1,557,764	1,624,802	1,573,380	1,654,625	1,620,540	1,667,304	1,646,100	1,584,420	1,597,957	1,530,150	1,573,103	19,216,408
Total 1931	1,997,361	1,680,504	1,876,306	1,790,400	1,809,873	1,771,680	1,785,011	1,758,616	1,896,360	1,900,455	1,784,190	1,799,922	21,850,878
Total 1930	2,766,393	2,563,792	2,860,587	3,053,580	3,153,251	3,043,020	2,881,450	2,759,217	2,430,390	2,367,904	2,226,210	2,191,264	32,299,098
Total 1929	2,794,619	2,412,758	2,760,705	2,729,250	2,793,256	2,759,550	3,108,990	3,128,458	2,967,270	3,015,556	2,852,930	2,955,330	34,261,732
Total 1928	2,441,002	2,247,790	2,483,100	2,465,970	2,500,559	2,687,207	2,977,993	3,151,181	2,916,790	2,937,594	2,794,890	2,967,969	32,711,045
Total 1927	3,844,736	3,631,320	3,996,367	3,885,220	3,202,703	3,044,920	3,043,332	2,993,336	2,882,790	2,708,780	2,641,140	2,680,632	34,605,076

A NEW "CLEVELAND" PRODUCT
enters a new field

The Cleveland Hardware & Forging Company has taken another step forward. To the proved performance of its remarkable line of Forgings, made since 1881, it has added the "Cleveland" Thread Protector, already acclaimed by leaders in the Pipe Industry as *the perfect Protector.* This new "Cleveland" product possesses exclusive features and advantages that insure the greatest ease in handling and the highest degree of service.

Skillfully and scientifically designed, it is a great improvement over all other Protectors now on the market, yet the cost is no more.

SAMPLE ON REQUEST.

"Cleveland" THREAD PROTECTOR

FIELD END PROTECTOR

The "Cleveland" Protector cannot be "spun" on or off like the ordinary Protector that yields to the slightest turn. It is a heavy steel shell provided with a coil spring FLOATING THREAD which is constantly in compression. The "Cleveland" Protector may be twisted off almost to the end of the pipe, but cannot be "spun" off. This feature insures *"service to the end"*. The coil thread is cadmium plated to avoid rusting or "freezing" to the pipe.

●

The "Cleveland" Protector is PERFORATED for drainage—an important feature where shipments of pipe remain out of doors for a long period. Manufacturers have praised this point highly.

●

The coil thread or spring is FLEXIBLE to a high degree, making it unnecessary to carry a variety of sizes in stock in order to meet every pitch diameter of thread. The coil will readily conform to various threads. This great flexibility is an advantage when applying the "Cleveland" Protector, as it is *impossible to strip or scar the pipe* when attaching.

●

Shipments, covering several transfers in transit, have PROVEN conclusively that the "CLEVELAND" PROTECTOR cannot come off in transit.

The OIL AND GAS INDUSTRY Needed This New "CLEVELAND" High Efficiency Thread Protector

Patented

"CLEVELAND" FIELD-END PROTECTOR

Patents Pending

NIPPLE OR COUPLING END PROTECTOR

COUPLING END PROTECTOR

An important feature of the "Cleveland" Protector is the fact that the width of the flange is of less dimension than the wall thickness of the coupling. Since all couplings have a radius at the end, ordinary Protectors extend over the O. D. of the coupling—often beyond, encouraging "side slapping" and loosening of the Protector in transit, because of sudden starting and stopping of the train . . . . . The "groove" between the Protector and the coupling of ordinary makes causes adjoining Protectors and couplings to "lock". *"Cleveland" Protectors entirely eliminate these damaging results.*

●

Loosening and tightening is greatly facilitated in the "Cleveland" Protector because of lugs (cast on the inside) and slots in the flange.

●

To insure protection to the end of the threaded portion before shipment and before application, an EXTENSION has been provided. This exclusive feature also serves to assist in easily starting the "Cleveland" Protector into the coupling.

●

The "Cleveland" Protector is exceptionally durable. It is a zinc die casting, possessing a tensile strength of 45,000 lbs. to the square inch.

The CLEVELAND HARDWARE & FORGING *Co.*
3272 E. 79th St. — *Forgings since 1881* — Cleveland, Ohio

was uncovered by the Eppenauer Drilling Co., San Angelo. The Fry sand was logged from 1,872-76 feet, drilling to 1,882 feet and making 120 bbls. per day.

E. N. Shaffner of Brownwood brought in a discovery well 2 miles northeast of Byrd's Store Pool in Brown County, from a saturated lime logged at 2,428-53 feet. The well made 25 bbls. natural and 90 bbls. in 12 hours after treating with acid. The Byrd's Store Pool was discovered in 1918-20. The new discovery is located on the M. Bowden farm in the northeast corner of the W. E. Gilliland Survey No. 138.

The Petroleum Oil Interests opened a new pool eight miles east of the Fry Pool, Brown County, in the Garcia Montez and Duran Surveys, on the R. A. Thompson farm. The Fry sand was logged from 1,327-29 feet, the well making 2 bbls. of oil per hour with 1,500,000 feet of gas. The Sher-Ritt Oil Co. of Brownwood, also opened another area for the county in 1934. The company's No. 1 D. D. Scott, in the W. K. Dalton Survey No. 57, logged a saturated lime pay at 1,895-1,904 feet and was drilled to 1,905 feet, plugging back to 1,904 feet to complete for a 45-bbl. well.

Texas Panhandle

Three wildcat feature discoveries were drilled in Hutchinson and Gray Counties in the Panhandle district. The test drilled in the latter county, The Texas Co.'s No. 1-C Taylor, located in Section 52, Block B-2, logged a dolomite pay at 2,768-2,900 feet and the granite wash pay at 2,990-93 feet, striking an increase in oil at 2,999 feet. It was bottomed at 3,006 feet and completed for an initial production of 250 bbls. per day. Location of this test is 3 miles southeast of the nearest production, and on the southeast edge of the granite ridge, reaching out into an area that was considered nonproducing. The discovery, of course, led to more drilling in the immediate area, and between it and the producing area to the northwest.

The strikes made in Hutchinson, considered by some as extensions to the Stinnett Pool, but far enough distant to be classed as wildcats, one removed 7 miles ot the north of production, have caused more drilling on the trend between the discoveries and production, and will lead to further drilling in the area. Humble Oil & Refining Co.'s No. 1 Logan, located in the A. Pedigo, 2 miles west of Pringle, topped a saturated lime pay at 3,217-19 feet and was drlled to 3,296 feet. However, it picked up water and was plugged back to 3,287 feet to shut off same and shoot. After shooting with 390 quarts from 3,190-3,280 feet it pumped only 6 bbls. of fluid, 3 per cent water, the first six hours. Gravity of the oil tested 34.6 degrees.

The Amtex Oil Co.'s No. 1 Stevenson, located in Section 7, Block M-24, T. D. Survey, is on a line between the Stinnett production and the above mentioned discovery in Hutchinson County. No. 1 Stevenson made 150 bbls. per day when completed, a much better well than the Logan discovery. It topped the pay at 3,185 feet and was bottomed at 3,335 feet.

New Pool in Wheeler

Seven miles east of Shamrock, in Wheeler County, R. R. Osborne and others' No. 1 Sloss and Admire, in Section 47, Block 13, created considerable new interest in this old area in which a small producer had been completed in 1928 without any others being drilled until in the fore part of 1934. The new well made 120 barrels the first 24 hours but soon fell off to 50 bbls. per day. It logged the dolomite pay from 2,190-93 feet, the oil testing 37.5 degrees. This new well led to the drilling of several other tests in the area, but none proved of much importance, the area seeming of little consequence.

Childress and Moore

Two deep tests were abandoned during the year; one in Childress County, drilled by the Humble Oil & Refining Co. on the Smith Land and Cattle Co. ranch, in Section 27, Block 9, H.&G. N. Survey, went to 5,225 feet before the company decided to give it up and try on another location about 1½ miles to the south. The Phillips Petroleum Co. drilled its No. 2 J. C. Wilson, in Section 157, Block T-3, T. & N. O. Survey, Moore County, to 8,912 feet without picking up a deep pay formation, so plugged it back to 3,191 feet and completed for a 22,200,000-foot gasser.

TEXAS PANHANDLE

Completions by Counties

County—	Comp.	Prod.	Dry	Gas
Carson	30	2,589	2	13
Childress	2	0	2	0
Collingsworth	3	0	4	0
Grey	209	71,754	4	11
Hutchinson	67	12,441	2	12
Moore	8	419	0	3
Wheeler	116	48,630	10	19
Total, 1934	435	135,833	24	58

Summary of Operations by Months

Month—	Comp.	Prod.	Dry	Gas
January	23	5,005	1	1
February	43	10,607	1	3
March	15	5,744	1	3
April	24	5,883	3	2
May	27	10,327	1	5
June	33	7,527	3	4
July	73	30,498	1	9
August	62	22,944	0	6
September	27	8,161	3	7
October	42	11,880	3	7
November	38	10,409	0	4
December	28	6,848	2	2
Total 1934	435	135,833	24	58
Total 1933	191	40,953	15	24
Difference	244	94,880	09	34

Texas Panhandle

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
CARSON COUNTY:													
Daily average	4,989	5,517	5,778	5,721	5,568	5,462	5,393	5,247	5,031	4,749	4,856	4,876	
Month	154,659	154,476	179,118	171,630	172,608	163,860	167,183	162,657	150,930	147,219	145,680	151,156	1,921,176
GRAY COUNTY:													
Daily average	24,666	30,777	34,162	34,895	36,986	35,893	37,944	35,905	33,649	33,256	33,148	33,031	
Month	764,646	861,756	1,059,022	1,046,850	1,146,566	1,106,790	1,176,264	1,113,055	1,009,470	1,030,936	944,440	1,023,961	12,333,756
HUTCHINSON COUNTY:													
Daily average	11,101	11,767	13,386	12,526	12,858	12,109	12,837	12,529	12,372	11,977	12,082	11,979	
Month	344,131	329,476	414,966	375,780	398,598	363,270	397,947	388,399	371,160	371,287	362,460	371,349	4,488,823
MOORE COUNTY:													
Daily average	769	755	796	713	685	647	654	1,371	1,186	953	1,072	1,055	
Month	23,839	21,224	24,490	21,390	21,235	19,410	20,274	42,501	35,580	29,543	32,166	32,705	324,351
WHEELER COUNTY:													
Daily average	747	704	1,206	1,365	2,144	2,092	3,525	4,460	5,773	6,244	6,340	7,406	
Month	23,157	19,712	37,386	40,950	66,464	62,760	109,585	138,260	173,190	193,564	190,200	229,585	1,284,314
Daily average	42,272	49,523	55,322	55,220	58,241	57,203	60,363	59,512	58,011	57,179	57,498	58,347	55,761
Total 1934	1,310,432	1,386,644	1,714,982	1,656,600	1,805,471	1,716,090	1,871,253	1,844,872	1,740,330	1,772,549	1,724,940	1,808,757	20,352,910
Total 1933	1,374,416	1,227,268	1,515,280	1,395,450	1,385,204	1,299,000	1,557,719	1,559,176	1,346,250	1,425,163	1,189,320	1,329,280	16,603,526
Total 1932	1,537,104	1,392,464	1,461,526	1,523,850	1,605,397	1,603,740	1,688,012	1,665,940	1,436,760	1,424,667	1,356,360	1,458,240	18,154,060
Total 1931	1,754,042	1,499,736	1,593,152	1,622,220	1,858,202	1,764,960	1,755,003	1,813,965	1,926,750	2,015,186	1,657,680	1,599,352	20,860,248
Total 1930	2,655,398	2,467,080	2,750,971	2,825,960	3,297,315	3,156,941	3,024,422	3,015,277	2,388,000	2,523,617	2,190,900	2,186,151	32,492,032
Total 1929	1,882,878	1,582,196	1,845,213	1,824,980	2,086,579	2,622,686	2,918,278	4,985,608	3,548,100	4,242,528	2,962,110	3,220,634	31,742,794
Total 1928	2,408,359	2,287,607	2,253,173	2,044,020	2,115,409	1,965,484	1,973,595	1,960,216	1,897,110	2,061,276	1,885,710	1,884,335	24,736,494
Total 1927	4,004,053	3,528,280	3,654,590	3,749,610	4,174,181	3,814,380	3,459,910	3,071,790	2,882,640	2,735,719	2,488,530	2,526,097	40,089,780

Central Texas

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
BROWN COUNTY:													
Daily average	2,337	2,418	2,497	2,415	2,410	2,417	2,313	2,210	2,169	2,127	2,138	2,104	
Month	72,447	67,704	77,407	72,450	74,710	72,510	71,703	68,510	65,070	65,937	64,140	65,224	837,312
CALLAHAN COUNTY:													
Daily average	1,556	1,720	1,725	1,727	1,836	1,797	1,752	1,692	1,690	1,667	1,665	1,609	
Month	48,236	48,160	53,475	51,810	56,916	53,910	54,312	52,452	50,700	51,677	49,950	49,879	621,477
COLEMAN COUNTY:													
Daily average	1,615	1,422	1,526	1,404	1,361	1,370	1,300	1,255	1,341	1,432	1,402	1,375	
Month	50,065	39,816	47,616	42,120	42,191	41,100	40,300	38,905	40,230	44,392	42,060	42,625	511,450
COMANCHE COUNTY:													
Daily average	720	768	700	697	716	711	751	728	740	722	719	854	
Month	22,320	21,504	21,700	20,910	22,196	21,330	23,281	22,568	22,200	22,382	21,570	26,274	262,235
EASTLAND COUNTY:													
Daily average	2,615	2,660	2,725	2,722	2,717	2,866	2,825	2,797	2,791	2,758	2,808	2,672	
Month	81,065	74,480	84,475	81,660	84,227	85,980	87,575	86,707	83,730	85,498	84,240	82,832	1,002,469
FISHER COUNTY:													
Daily average	3,285	3,366	3,500	3,540	3,904	3,942	4,614	4,840	4,760	4,597	4,845	5,146	
Month	101,835	94,248	108,500	106,200	121,024	118,260	143,034	150,040	142,800	151,807	145,350	159,526	1,542,624
HASKELL COUNTY:													
Daily average	26	25	24	25	22	23	.....	38	22	21	21	22	
Month	806	700	744	750	682	690	.....	1,178	660	651	630	682	8,173
JACK COUNTY:													
Daily average	1,482	1,476	1,554	1,306	1,553	1,490	1,371	1,361	1,345	1,356	1,297	1,253	
Month	45,942	41,300	48,174	39,180	48,143	44,700	42,501	42,191	40,350	42,036	38,910	38,843	512,270
JONES COUNTY:													
Daily average	2,842	2,253	2,503	2,156	2,077	2,411	1,630	1,731	1,625	1,629	1,492	1,415	
Month	63,302	63,084	77,593	65,880	64,387	72,330	50,530	53,661	48,750	50,499	44,760	43,865	698,641
PALO PINTO COUNTY:													
Daily average	404	394	387	372	403	398	350	361	374	365	358	343	
Month	12,524	11,032	11,997	11,160	12,493	11,940	10,850	11,191	11,220	11,408	10,740	10,632	137,188
RUNNELS COUNTY:													
Daily average	435	1,122	740	734	681	702	1,397	1,355	1,047	1,276	1,119	1,170	
Month	13,485	31,416	22,940	21,720	21,111	21,060	43,307	42,005	31,410	39,556	33,570	36,270	357,850
SHACKELFORD COUNTY:													
Daily average	4,146	5,010	5,142	5,181	5,367	5,466	5,544	5,539	5,802	5,872	5,850	5,506	
Month	128,526	140,280	159,402	155,430	166,377	163,980	171,864	171,709	174,060	182,032	175,500	170,686	1,959,846
STEPHENS COUNTY:													
Daily average	5,461	5,792	5,757	5,509	5,715	5,711	5,545	5,469	5,605	5,402	5,236	5,330	
Month	169,291	162,176	178,467	165,270	177,165	171,330	171,895	169,529	168,150	167,462	157,080	163,680	2,021,195
TAYLOR COUNTY:													
Daily average	192	152	160	126	154	149	153	138	125	113	81	76	
Month	5,952	4,256	4,960	3,780	4,774	4,470	3,193	4,278	3,750	3,503	2,490	2,170	47,576
THROCKMORTON COUNTY:													
Daily average	630	684	703	804	544	557	747	765	734	683	616	544	
Month	19,530	19,152	21,793	18,120	16,864	16,710	23,157	23,715	22,020	21,173	18,480	16,865	237,579
Daily average	26,946	29,261	29,653	28,548	29,460	29,016	30,242	30,269	30,170	30,323	29,650	29,163	29,476
Total 1934	835,326	819,304	919,243	856,440	913,260	900,300	937,502	938,329	905,100	940,013	889,500	904,053	10,758,384
Total 1933	857,859	631,260	698,678	664,980	676,420	610,350	629,623	650,566	641,490	102,105	695,010	706,469	8,005,060
Total 1932	644,118	626,458	646,128	647,130	680,481	661,440	688,603	696,198	635,850	632,022	673,248	696,578	7,998,267
Total 1931	653,356	628,516	669,600	693,360	741,763	716,370	654,596	638,848	662,400	663,555	640,350	660,455	8,023,864
Total 1930	1,326,689	1,197,784	1,253,702	1,220,510	1,218,176	1,172,640	1,104,220	1,102,980	1,014,210	951,010	885,210	890,072	13,348,203
Total 1929	1,574,423	1,368,304	1,515,249	1,451,880	1,539,057	1,471,350	1,517,636	1,532,762	1,532,730	1,542,932	1,449,300	1,434,776	17,970,419
Total 1928	1,402,754	1,381,096	1,466,029	1,432,150	1,477,119	1,473,111	1,520,247	1,502,756	1,582,050	1,447,832	1,463,700	1,568,259	17,716,102
Total 1927	1,949,063	1,903,412	2,245,702	2,109,200	2,192,351	1,967,640	1,705,553	1,597,523	1,519,230	1,548,698	1,464,750	1,492,029	21,606,351

Oklahoma Operators Opened 31 Oil and Gas Pools in 1934, Two of Them of Importance

By JAMES McINTYRE

Oklahoma took a prominent part in the revival of field operations that swept the country in 1934 stimulated by improved prices of oil and the assurance of a stabilized market. A total of 1,717 wells was completed in the State as against 1,093 the previous year. It was the busiest year in the field since 1930. Thirty-one new oil and gas pools were opened as a result of widespread wildcat operations, two of them being of major importance, the Fitts Bromide horizon in southern Pontotoc County and the South Burbank Field in Osage County. The Lucien and Crescent Pools and West Chandler and South St. Louis holdovers from 1933 were developed and the Layton sand, Olive Pool, in Creek County was pretty thoroughly drilled. The Edmond Pool in Oklahoma County which was opened in 1930 by the Mid-Kansas Oil & Gas Co. (now Marathon Oil Co.) proved this year that it is a pool of consequence with no indication of how much acreage it will cover up to the close of the year.

Production was held down all year and the total crude oil output was limited to 178,652,012 bbls., or a daily average of 489,458 bbls. as against 178,356,449 bbls. the year before, a difference of only 295,563 bbls. The average price of Oklahoma oil throughout the year was $1 per barrel, while the average in 1933 was 66 cents, indicating that the production of last year was worth approximately $178,652,012 while 295,563 bbls. less production in 1933 was worth only $117,715,256. To make plainer what the price increase meant to the producer it may be said that while the production of 1934 was worth $178,652,000, the same quantity crude at 1933 average prices would have brought about $117,910,000, a difference of $60,742,000.

None of the new pools opened last year and in 1933 were permitted to produce an average of 10,000 bbls. a day, although Lucien, Fitts, Crescent and South Burbank could all have entered the list of major producing fields. The Fitts Pool produced only 329,389 bbls. last year; Lucien, 2,903,269 bbls.; Crescent, 1,236,950 bbls., and South Burbank, 2,279,191 bbls.

The Oklahoma City Field produced 60,833,486 bbls., against 66,984,570 bbls. in 1933, and the Seminole Field with its 13 pools, produced 25,696,958 bbls., against 32,177,052 bbls. in 1933. St. Louis-Pearson produced 8,083,844 bbls., an increase over the previous year's output which was 7,908,258 bbls., the increase coming from the South St. Louis area which was one of the most active and prolific spots in the State last year.

Thirty-one new pools including new gas areas, were opened in Beckham, Caddo, Jackson, Kay, Latimer, Lincoln, Logan, Noble, Oklahoma, Okfuskee, Osage, Pontotoc and Seminole Counties.

Polo Pool

The Polo Pool in Noble County was another important discovery although it did not compare with the South Burbank Field or the Fitts Pool in size of its wells or in area. The Texas Co. and others completed the discovery well on the Voss farm, SW NE SE Section 28-22-2w. It had Wilcox sand at 4,908-19 feet and produced 485 bbls. of high gravity oil initially. It was completed early in August. At the close of the year 10 oil wells had been completed in the pool and eight others were drilling. The discovery well was taken over by Stanolind Oil & Gas Co., one of the partners of the Texas Co. and the Stanolind carried on the development of the property thereafter. The Voss lease was 160 acres in extent and the Amerada Petroleum Corp. also holds an interest in it.

The Fitts Pool

While the Fitts Pool in Pontotoc County was a holdover from 1933 its importance was a matter of debate at the opening of 1934 and not until July, 1934, was it found to be a pool of the first class. Then the Bromide series was penetrated and the pool came into its own. The Fitts Pool, named in honor of John Fitts, geologist of Ada, county seat of

Oklahoma

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
WASHINGTON COUNTY:													
Daily average	3,649	3,504	3,709	3,535	3,617	3,604	3,760	3,649	3,417	3,703	3,476	3,606	
Month	113,119	98,112	114,979	106,050	112,127	108,120	116,560	113,119	102,510	114,793	104,280	111,786	1,315,555
NOWATA COUNTY:													
Daily average	5,663	5,781	6,065	5,998	6,087	6,112	6,294	6,499	6,176	6,699	6,426	6,411	
Month	175,553	161,868	188,015	179,940	188,697	183,360	195,114	201,469	185,280	207,669	192,780	198,741	2,258,186
ROGERS COUNTY:													
Daily average	1,769	1,666	1,809	1,847	1,832	1,834	1,782	1,774	1,618	1,823	1,718	1,723	
Month	54,839	46,648	56,079	55,410	56,792	55,020	55,242	54,994	48,540	56,513	51,540	53,413	645,030
OSAGE AND EASTERN KAY COUNTIES:													
Burbank—													
Daily average	9,265	9,247	9,187	9,290	9,140	9,106	9,168	9,111	9,290	9,226	10,869	9,114	
Month	287,215	258,916	284,797	278,700	283,340	273,180	284,208	282,441	278,700	286,006	326,070	282,534	3,406,107
South Burbank—													
Daily average	650	1,527	6,117	4,032	4,426	5,370	7,002	9,230	8,855	8,990	8,959	9,390	
Month	20,150	42,756	189,627	120,960	137,206	161,100	217,062	286,130	265,650	278,690	268,770	291,090	2,279,191
Other Osage Pools—													
Daily average	21,851	23,888	25,004	25,013	24,613	25,042	26,456	25,890	25,918	26,023	25,326	26,916	
Month	677,381	668,864	775,124	750,390	763,003	751,260	820,136	802,590	777,540	806,713	759,780	834,396	9,187,177
TULSA COUNTY:													
Daily average	4,052	4,109	4,098	4,106	4,062	4,007	3,875	3,868	3,904	4,290	3,889	3,914	
Month	125,612	115,052	127,069	123,180	125,922	120,210	120,125	119,908	117,120	132,990	116,670	121,334	1,465,192
WAGONER COUNTY:													
Daily average	1,176	1,182	1,209	1,205	1,189	1,173	982	968	960	940	866	861	
Month	36,456	33,096	37,479	36,150	36,859	35,190	30,442	30,008	28,800	29,140	25,980	26,691	386,291
OKMULGEE COUNTY:													
Daily average	5,628	5,710	5,829	5,968	5,987	5,930	5,742	5,521	5,203	5,276	4,841	5,114	
Month	174,468	159,880	180,699	179,040	185,597	177,900	178,002	171,151	156,090	163,556	145,230	158,534	2,030,147
MUSKOGEE AND McINTOSH COUNTIES:													
Daily average	966	974	873	956	951	952	931	876	891	929	889	907	
Month	29,946	27,272	27,063	28,680	29,481	28,560	28,861	27,156	26,730	28,799	26,670	28,117	337,335
OKFUSKEE COUNTY:													
Daily average	3,448	3,392	3,549	3,167	3,750	3,575	3,664	3,755	3,776	3,802	3,706	3,714	
Month	106,888	94,976	110,019	95,010	116,250	107,250	113,584	116,405	113,280	117,862	111,180	115,134	1,317,847
POTTAWATOMIE, SEMINOLE, HUGHES AND PONTOTOC COUNTIES:													
Seminole City—													
Daily average	10,354	10,315	11,055	10,650	10,559	11,825	11,400	10,993	9,522	9,474	9,371	8,720	
Month	320,974	288,820	342,705	319,500	327,329	354,750	353,400	340,783	285,660	293,694	281,130	270,320	3,779,065
East Seminole—													
Daily average	1,166	1,059	975	1,066	969	1,088	1,183	1,298	1,304	1,204	1,222	1,016	
Month	36,146	29,652	30,225	31,980	30,039	32,640	36,673	40,238	39,120	37,324	36,660	31,496	412,193
Bowlegs—													
Daily average	9,906	10,264	10,224	9,952	9,703	11,212	10,805	11,549	10,057	10,169	10,264	9,544	
Month	307,086	287,392	316,944	298,560	300,793	336,360	334,955	358,019	301,710	315,239	307,920	296,864	3,760,842
Earlsboro and South Earlsboro—													
Daily average	10,264	10,427	10,691	11,057	10,467	11,782	11,664	11,993	10,886	9,291	9,873	9,425	
Month	318,184	291,956	331,421	331,710	324,477	353,460	361,584	371,783	326,580	288,021	296,190	292,175	3,887,541
East Earlsboro—													
Daily average	12,350	12,207	11,622	11,668	11,302	11,450	10,663	10,124	8,617	8,224	8,120	8,422	
Month	382,850	341,796	360,282	350,040	350,362	343,500	330,553	313,844	258,510	254,944	243,600	261,392	3,791,672
Little River and East Little River—													
Daily average	15,152	15,047	15,704	14,883	14,434	15,688	15,974	15,520	14,225	13,732	13,870	12,366	
Month	469,712	421,316	486,824	446,490	447,454	470,640	495,194	481,120	426,750	425,723	416,100	383,346	5,370,669
Searight—													
Daily average	2,193	2,335	2,392	2,551	2,759	2,988	2,286	2,464	2,535	2,541	2,786	2,527	
Month	67,983	65,380	74,182	76,530	85,529	89,640	70,866	74,524	76,050	78,771	83,580	78,647	921,682
Mission—													
Daily average	4,274	4,202	4,128	4,041	3,777	3,788	3,318	3,218	3,153	2,869	2,989	2,759	
Month	132,494	117,656	127,968	121,230	117,087	113,640	102,858	99,758	94,590	88,939	89,670	85,529	1,291,419
Carr City—													
Daily average	5,702	5,622	6,054	5,685	5,856	6,862	5,491	5,807	5,210	4,849	4,891	5,025	
Month	176,762	157,416	187,674	170,550	181,536	205,860	170,221	180,017	156,300	150,319	146,730	155,775	2,039,160
Maud—													
Daily average	1,395	1,306	1,353	1,266	1,271	1,217	1,177	1,231	1,008	1,139	1,021	1,169	
Month	43,245	36,568	41,943	37,980	39,401	36,510	36,487	38,161	30,240	35,309	30,630	36,239	442,712
TOTAL SEMINOLE FIELD:													
Daily average	72,756	72,784	74,199	72,819	71,097	77,900	73,961	74,137	66,517	63,493	64,407	60,993	
Month	2,255,436	2,037,952	2,300,169	2,184,570	2,204,907	2,337,000	2,292,791	2,298,247	1,995,510	1,968,283	1,932,210	1,890,783	25,696,958
Allen—													
Daily average	8,673	8,894	9,114	8,731	8,379	8,406	8,314	8,219	8,315	7,923	7,963	7,884	
Month	268,863	249,032	282,534	261,930	259,749	252,180	257,734	254,789	249,450	245,613	238,890	244,404	3,065,168
Asher—													
Daily average	404	432	455	533	474	490	413	416	457	412	414	410	
Month	12,524	12,096	14,105	15,990	14,694	14,700	12,803	12,896	13,710	12,772	12,420	12,710	161,420

(Continued on Next Page)

Pontotoc County, was opened as an oil field by Edward H. Moore and others in August, 1933. No. 1 Wirick, SE cor. SW Section 29-2-7, got a sand at 2,640 feet which yielded 36 gravity oil. It was shut in until December and when opened produced 700 bbls. in 50 hours and was again shut in until a small pipe line was laid to the field by the Oklahoma Pipe Line Co. This line was later taken over by the Stanolind Pipe Line Co. and remained the only line out of the field throughout the year. It had a capacity of about 2,000 bbls. per day.

In February, Manahan Drilling Co. and others on the Wagner farm in Section 18-2-7, found a sand at 1,758-64 feet which yielded an initial production of 250 bbls. This sand proved a disappointment when other wells were drilled to it nearby. In the course of the development of the pool sands were found that produced immense volumes of dry gas, which was shut in, sometimes after great difficulty.

The discovery that stamped Fitts as a pool of major importance was W. A. Delaney and others' No. 2 Craddock, C NE NE NE Section 28-2-6, which found a broken sand at 4,410-30 feet and a solid sand at 4,430-48 feet which yielded 332 bbls. per day. It proved to be one of the smallest wells drilled to the Wilcox sand throughout the remainder of the year. There were 25 deep sand producing wells in the field at the close of the year with a potential rated at over 85,000 bbls. but which were obliged to produce even less than the pool's allowable because of inadequate pipe line facilities. The production of the Fitts Pool for the year was only 329,389 bbls. Its production this year will be limited only by the demand for Oklahoma crude, as an 8-inch pipe line of the Stanolind Pipe Line Co. was completed late in January and placed at service of producers in the field.

That the potential production of the Fitts Pool will mount to big figures is plainly evident early in January as already wells have been drilled into the pay that started off at 600, 800, 900 and 1,000 bbls. the first hour and if the Wilcox sand in the Fitts Pool has the same producing characteristics as the same sand has in other pools in Oklahoma, notably Seminole and Oklahoma City, the ultimate production of the pool should be very large. Potential test taken in January of this year demonstrate the richness of the productive sand in the Fitts Pool. The first dozen of wells thus tested showing an average potential of over 3,800 bbls. per well.

South Burbank Pool

An important discovery was that of Meade Brothers and others which opened the South Burbank Pool in Osage County, which developed into a major pool. The test was located in Section 10-25-6. It had Burbank sand at 2,806-55 feet and produced 1,350 bbls. in 24 hours together with 1,500,000 feet of gas. The discovery well was drilled early in March and would have been followed by a heavy drilling campaign had not producers settled on a conservative operating campaign and Secretary Ickes of the Interior Department ordered operators to drill only line wells and discouraged the drilling of all wells that were not necessary as offsets. Even though two Osage sales were held and more South Burbank acreage disposed of only 78 oil wells were completed in the pool up to December 31 and production was held below 10,000 bbls. per day.

The well showing the largest potential production was Midco Oil Corp.'s No. 5, NE NW NW Section 10-25-6. It made 5,300 bbls. in 24 hours.

The oil is of the same grade as that of the Burbank Field, which has always been highly regarded by refiners because of its exceptionally good lubricating base.

Rich Pool in Township 7-8

An important Wilcox sand strike was made in Section 31-7-8, in eastern Seminole County by Winona Oil Co. and Jarvis & Holm, early in July when their No. 1 Mayer started off at 2,102 bbls. of oil from sand at 4,212-16 feet. The discovery well also produced 1,790 bbls. of water. Subsequent wells from this sand and in this pool exceeded the first well in production and the oil did not have the accompaniment of water. A month later the Blackwell Oil & Gas Co. over the line in Hughes County, in Section 29-7-8, opened another producing horizon in its No. 1 Ferguson, at 3,052 feet, the well swabbing 1,415 bbls. in 48 hours.

Deepest Oil Well in World

The deepest oil producing well in the world was drilled in Oklahoma in 1934 by the Denver Producing & Refining Co. in its No. 1 A-dah Noe, in Section 34-10-10w, Caddo County, on a large block of acreage held by the Denver and the Pure Oil Co. The Pure withdrew from the proposition before the well reached the oil sand and the Denver company continued alone. Sand in the Pennsylvania series was found at 9,900 feet to 10,000 feet, but drilling was continued to 11,230 feet, making it next to the deepest hole in the world, being exceeded in depth only by a well in California. The Denver company would have drilled deeper but encountered all kinds of hole trouble and at the close of the year it was cleaning out the hole which early in January was cleared sufficiently for the well to flow by heads 75 bbls. per day. It is regarded as a 200-bbl. well by the officials of the company. The oil is of a reddish color when held to the light and of very high gravity, resembling closely some of the Pennsylvania grade crudes in appearance and gravity. The Denver company planned an offset to the well in the belief that it has an important oil bearing structure.

J. D. Sledge and Jack Lynch's test, No. 1-A Thompson, SW NE SW Section 1-1-7, Pontotoc County, about 6 miles southeast of the Fitts Pool, was one of the most closely watched wells in the State in the closing weeks of the year. It had Hunton lime at 3,830-4,100 feet with a 60 to 80-bbl. showing but drilled on to Viola lime topped at 4,240 feet and was at a total depth of 4,340 feet when this review was closed. The Hunton had been acidized and the well flowed 101 bbls. and later it flowed 60 bbls. a day while drilling. It was not a completion.

New Pool in Kay County

The Bay Oil Co. opened a new pool in Kay County in December but the well was not completed at the close of the year. It is No. 1 Holden, SW SW SE Section 14-28-3, not far from the Mervine Pool. It had what was thought to be Skinner sand at 2,960-93 feet and made

Oklahoma (Continued)

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
West Asher													
Daily average	1,717	1,637	1,629	1,542	1,477	1,462	1,354	1,289	1,228	1,147	1,153	1,142	
Month	53,227	45,836	50,499	46,260	45,787	43,860	41,974	39,959	36,840	35,557	34,590	35,402	509,791
St. Louis-Pearson—													
Daily average	21,932	22,317	22,528	21,466	21,714	24,766	26,131	23,890	20,763	18,569	20,770	20,914	
Month	679,592	624,876	698,368	643,980	673,134	742,980	810,061	740,590	622,890	575,639	623,100	648,234	8,083,544
Sasakwa—													
Daily average	1,149	1,058	1,047	980	872	880	1,071	1,033	1,006	834	863	840	
Month	35,619	29,624	32,457	29,400	27,032	26,400	33,201	32,023	30,180	25,854	26,070	26,040	353,900
Fitts—													
Daily average	140	222	374	259	473	467	715	1,139	964	1,208	2,094	2,714	
Month	4,340	6,216	11,594	7,770	14,663	14,010	22,165	35,309	28,920	37,448	62,820	84,134	329,389
Sasakwa Townsite—													
Daily average	885	920	1,138	1,227	1,678	1,597	1,644	1,454	1,320	1,320	1,343	1,337	
Month	27,435	25,760	35,278	36,810	52,018	47,910	50,964	45,074	39,900	40,920	40,290	41,427	482,806
Beebe—													
Daily average	3,583	4,232	4,125	4,754	4,669	4,611	5,388	5,032	4,156	3,941	3,977	3,961	
Month	111,073	118,496	127,875	142,620	144,739	138,330	167,028	155,992	124,680	122,171	119,310	122,791	1,595,105
Wewoka—													
Daily average	4,537	4,909	4,462	4,459	4,508	4,409	4,473	4,209	4,259	4,570	4,405	4,393	
Month	140,647	137,452	138,322	133,770	139,748	132,270	138,663	130,479	127,770	141,670	132,150	136,183	1,629,124
Cromwell—													
Daily average	4,772	4,722	4,776	4,674	4,676	4,681	4,749	4,628	4,442	4,446	4,550	4,449	
Month	147,932	132,216	148,056	140,220	144,956	140,430	147,219	143,468	133,260	137,826	136,500	137,919	1,690,002
Papoose-Gilcrease—													
Daily average	1,396	1,387	1,404	1,361	1,369	1,334	1,308	1,287	1,284	1,306	1,311	1,302	
Month	43,276	38,836	43,524	40,830	42,439	40,020	40,548	39,897	38,520	40,486	39,330	40,362	488,068
Holdenville—													
Daily average	3,484	3,874	3,739	3,665	3,226	3,190	3,359	2,936	2,961	2,673	2,508	2,541	
Month	108,004	108,472	115,969	109,950	100,006	95,700	104,129	90,830	88,830	82,863	75,240	78,771	1,158,704
Fish—													
Daily average	2,788	3,004	2,785	2,798	2,738	3,812	3,642	5,103	3,779	3,942	4,186	6,740	
Month	86,428	84,112	86,335	83,940	84,878	114,360	112,902	158,193	113,370	122,202	125,580	208,940	1,381,240
Konawa—													
Daily average	2,502	2,559	2,486	2,403	2,241	2,147	2,220	2,133	1,953	2,002	2,016	2,014	
Month	77,562	71,652	77,066	72,090	69,471	64,410	68,820	66,123	58,590	62,062	60,480	62,434	810,760
Gray—													
Daily average	2,809	2,588	2,806	2,699	2,372	2,214	1,996	2,027	2,026	1,708	1,915	1,883	
Month	87,079	72,240	86,986	65,070	73,532	66,420	61,876	62,837	60,780	52,948	57,450	58,372	805,591
Keokuk—													
Daily average	853	692	815	1,071	1,212	1,117	921	916	875	1,499	1,389	1,367	
Month	26,443	19,376	25,265	32,130	37,572	33,510	28,551	28,396	26,250	46,469	41,670	42,377	388,009
Miscellaneous—													
Daily average	1,606	1,599	1,647	1,552	1,460	1,515	1,660	1,662	1,704	1,009	1,216	1,210	
Month	49,786	49,772	51,057	46,560	45,260	45,450	51,460	51,522	51,120	31,279	36,480	37,510	542,256
CREEK COUNTY:													
Glen Pool, Sapulpa, Kiefer and Olive—													
Daily average	5,410	5,572	5,584	5,562	5,492	5,463	5,216	5,110	5,042	5,051	5,044	5,117	
Month	167,710	156,016	173,104	166,860	170,252	163,890	161,696	158,410	151,260	156,581	151,320	158,627	1,935,726
Cushing-Shamrock—													
Daily average	13,968	13,678	13,806	13,711	13,758	13,710	14,916	13,880	13,819	13,425	13,611	13,515	
Month	433,008	382,984	427,986	411,330	426,498	411,300	462,396	430,280	414,570	416,485	408,330	418,965	5,044,132
Bristow and Slick—													
Daily average	11,014	10,459	10,238	10,662	10,266	10,247	10,567	10,427	10,570	10,511	9,506	9,704	
Month	341,434	292,852	317,378	319,860	318,246	307,410	327,577	323,237	317,100	325,841	285,180	300,824	3,779,939
PAWNEE AND PAYNE COUNTIES:													
Yale, Maramec and Jennings—													
Daily average	5,138	4,997	5,122	5,172	5,088	5,085	4,963	4,910	4,752	4,827	4,694	4,703	
Month	159,278	139,916	158,782	155,160	157,728	152,670	153,853	152,210	142,560	149,637	140,820	145,793	1,808,707
Masham-Ralston—													
Daily average	81	78	81	84	83	83	86	89	84	90	89	86	
Month	2,511	2,184	2,511	2,520	2,573	2,490	2,666	2,759	2,520	2,790	2,670	2,666	30,860
Ripley—													
Daily average	540	553	514	610	581	577	479	424	366	379	395	356	
Month	16,740	15,624	15,934	18,300	18,011	17,310	14,849	13,144	10,980	11,749	11,940	11,066	176,547
Watchorn—													
Daily average	439	424	427	444	439	440	409	385	373	371	366	364	
Month	13,609	11,872	13,237	13,320	13,609	13,200	12,679	11,935	11,190	11,501	10,980	11,284	148,416
Cleveland-Keystone—													
Daily average	9,102	8,723	8,319	8,162	8,323	8,196	6,075	7,103	6,718	6,678	6,646	6,616	
Month	282,162	244,244	257,889	244,860	258,013	245,880	188,325	220,193	201,540	207,018	199,380	205,096	2,754,600

(Continued on Next Page)

in ARGENTINA

. . . . CRACKING LOCAL CRUDES

LICENSES granted under United States and Foreign Patents for: Cross • de Florez • Holmes-Manley • Tube and Tank Cracking Processes and Combination Cracking Units.

Licensing Agents:
The M. W. KELLOGG CO.
225 Broadway · New York
or its
European Representative:
Compagnie Technique des Petroles · 134 Boulevard Haussmann · Paris, France

IN ARGENTINA as in many other parts of the world refineries are operating under the broad licensing rights of Gasoline Products Company.

These rights permit the designing of combination units incorporating one or more of the outstanding features of the Cross, de Florez, Holmes-Manley and Tube and Tank processes. Thus the refiner is assured of a cracking unit adapted to his particular requirements.

We suggest you investigate the broad and comprehensive service of Gasoline Products Company before investing in cracking equipment.

GASOLINE PRODUCTS COMPANY
INCORPORATED
11 COMMERCE STREET · NEWARK, NEW JERSEY

165 bbls. initially. It was at a total depth of 3,042 feet at the close of the year.

Black Gold's Discovery

Black Gold Petroleum Co. opened a pool in Pottawatomie County with No. 1 Bizzell, C NE NW Section 15-7-3. Hunton lime was found at 4,430-58 feet. It was acidized and swabbed 250 bbls. in 24 hours. A second acid treatment brought up 632 bbls. of oil in 48 hours and the well was completed. The discovery was made in December but the completion came in mid-January.

The Angle Gas Pool

William Angle and others in their No. 1 Johnson, NE NE SE Section 17-1n-8w, Stephens County, on a wildcat location, opened what the owners say is a 40,000,000-foot gas production in December, at a total depth of 2,473 feet. The well was permitted to make 10,000,000 feet of gas per day. It is said to be producing distillate or "gasoline." It had not been reported as a completion when the year closed.

New Seminole Pools

Oil was found where it never was known before in several parts of Seminole County. The Stanolind Oil & Gas Co. opened up production in a test on the Aldridge farm, C N half S half SE Section 2-5-7, early in February. It was drilled to 4,295 feet, but its production came from the Gilcrease sand topped at 2,643 feet. The well pumped 35 bbls. of oil and 70 bbls. of water. Carter Oil Co. on the Jarvis farm, Section 18-10-6, opened the North Searight Pool with a 2,100-bbl. well in pay at 4,588-96 feet in April. Summitt Drilling Co. on the Lozier farm, Section 20-9-7, in July had Hunton lime at 4,079 feet and drilled to 4,130 feet, getting a 600-bbl. well. Campbell and others on the Lorraine farm, NE SE NW Section 20-9-7, in the East Seminole sector, drilled to 4,242 feet, Viola lime, but finding nothing, plugged back to 3,475 feet and tested. They got an 8,000,000-foot gas production but a flood of water ruined all chances of a well and it was abandoned. Fleetborn Oil Co. on the Bowlegs farm in Section 7-8-8, opened a new productive spot in July, the well swabbing 911 bbls. of oil on the first day's test from sand at 4,197 feet, total depth 4,214 feet.

In the middle of August the Olympic Oil Co.'s wildcat, No. 1 McClassen, SE NW NW Section 12-9-8, Seminole County, found Cromwell sand at 3,433-78 feet. It started at 40,000,000 feet of gas and an eight-hour flow of 157 bbls. of oil. It was completed some weeks later with an initial 24-hour production of 347 bbls. of oil.

The Dill Pool

The Carter Oil Co. opened the Dill (Boley) Pool in August with its No. 1 Dill, C NW SE Section 2-11-8, in the northeastern tip of Seminole County. The well produced from Cromwell sand at 3,374-3,408 feet and when completed had an initial production of 720 bbls.

The Gessman Pool

The Texas Co. opened the Gessman Pool, a Cleveland sand pool, in Lincoln County. Its No. 1 Gessman, SE SE NE Section 33-14-4, was a hole full of water in Wilcox sand at 4,990-5,002 feet. It was plugged back to Cleveland sand at 3,040-50 feet where it showed a gas production of 10,000,000 feet per day with 130 bbls. of oil. It was not until a month later, or in mid-September, that it was completed with an initial production of 225 bbls. per day. It was followed by another Cleveland sand well before the year was up and two wells were drilling.

Shawnee Pool

The Shawnee Pool was discovered by Stanolind Oil & Gas Co. and Amerada Petroleum Co. in their No. 1 Goodman, SW NE NE Section 5-10-4, Pottawatomie County, in August. The well had Earlsboro sand at 4,405-53 feet and produced 563 bbls. in 21 hours, 10 per cent water and 10 per cent b.s. When completed in September it made a production of 304 bbls. of oil and 60 bbls. of water.

Just far enough from the Tatums Pool in Carter County to be called a wildcat, McHenry and others' No. 1 Ratliff, NW NW SW Section 28-1s-2w, found a small oil production in a sand at 540-606 feet. It pumped 7 bbls. in seven and one-half hours and was called a completion.

Gypsy Oil Co. and Sinclair Prairie Oil Co.'s No. 1 Manning, C NW NW Section 3-17-4w, in an effort to extend the Crescent Pool, drilled a Wilcox sand dry hole bottoming the hole at 6,411 feet. Then they went back to the Layton sand at 4,863-97 feet and made an 8,000,000-foot gas well of the test, completing it in the latter part of November.

Latimer County

LeFlore Gas & Electric Co. in a wildcat, No. 1 James, CWL SE SW SW Section 11-6-21, Latimer County, got a 220,000-foot gas production in sand at 1,544-1,690 feet, completing the well early in October.

Late in October, Reva Oil Co.'s No. 2-B, NW SW SW Section 29-28-11, in the Bowring Pool, Osage County, completed a 300,000-foot gasser in sand at 800-37 feet.

Grisso Pool

The Grisso Pool in Pottawatomie County, was also a late October field. W. D. Grisso and others in their No. 1-A Kenyon, C NE SE Section 3-8-4, found Hunton lime at 4,050-67 feet. The well flowed 288 bbls. in six hours. It was acidized and flowed 472 bbls. in 24 hours, pinched in. It was reacidized and made 820 bbls. in 24 hours and was completed.

Near the Sasakwa Pool in Seminole County, Mudge Oil Co. drilled a wildcat, No. 1 Whitney, SE NW Section 9-6-7, and found a sand at 1,935-36 feet, which yielded a 15-bbl. oil production but with 40 bbls. of water. It was completed.

Pool East of Lucien

Sinclair Prairie Oil Co. opened a Viola lime pool, or an extension to the Lucien Pool, with its No. 1 Cawood, C SW NW Section 27-20-2w, Noble County. Viola was topped at 4,970 feet and 7-inch pipe was set at 4,980 feet, total depth 4,983 feet. It first flowed 15,000,000 feet of gas and some oil but when completed in December it made an initial production of 907 bbls. of 41 gravity crude.

The Hoyt Test

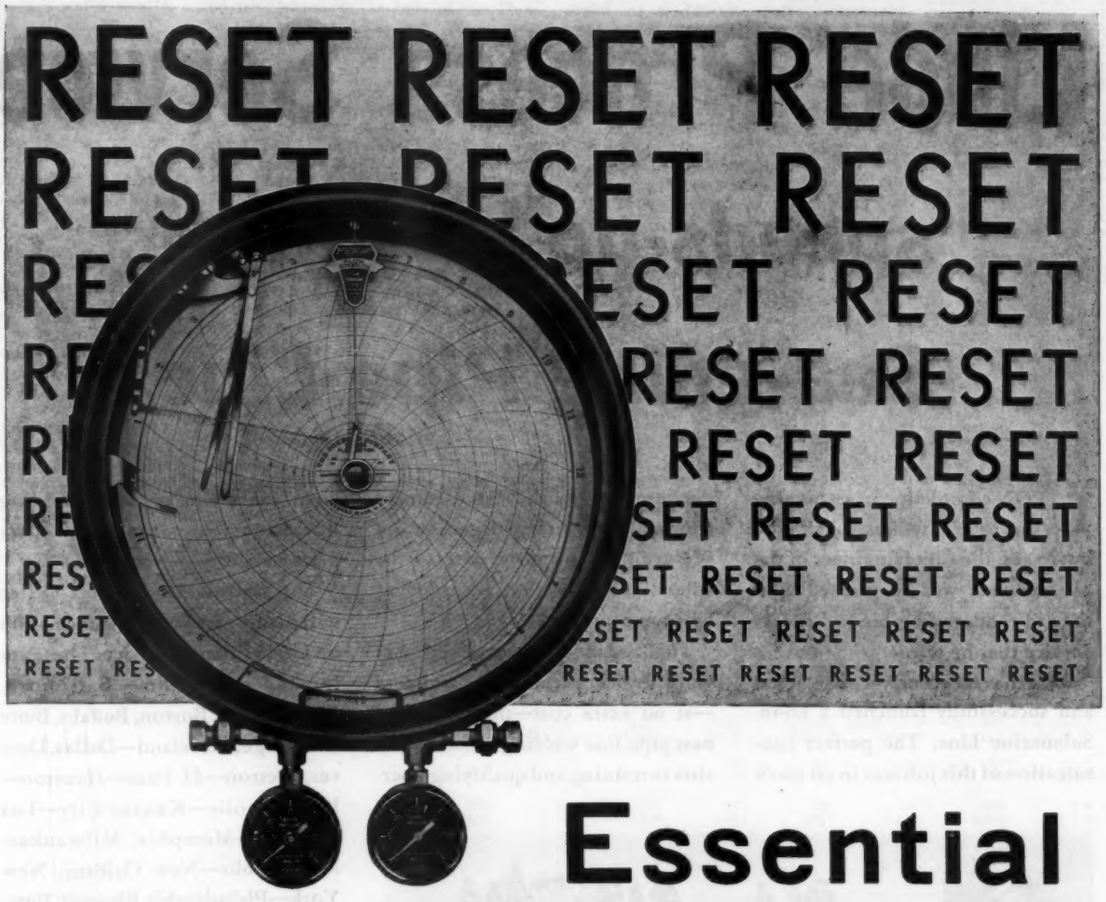
The Sinclair Prairie Oil Co. at the close of the year had an incomplete test

Oklahoma (Continued)

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
OKLAHOMA COUNTY:													
Oklahoma City—													
Daily average	173,119	157,846	163,869	184,836	192,467	201,411	169,515	151,975	149,570	145,035	154,152	156,118	
Month	5,366,689	4,419,688	5,079,629	5,545,080	5,966,477	6,042,330	5,254,965	4,711,225	4,487,100	4,496,085	4,624,560	4,839,658	60,833,486
Edmond—													
Daily average	.....	.....	.....	252	249	270	277	664	213	293	374	410	
Month	.....	.....	.....	7,560	7,719	8,100	8,587	20,584	6,390	9,083	11,200	12,710	91,952
Newalla—													
Daily average	.....	5	47	55	.....	.....	.....	.....	.....	.....	.....	.....	
Month	.....	140	1,457	1,650	.....	.....	.....	.....	.....	.....	.....	.....	3,247
LINCOLN COUNTY:													
Davenport-Kendrick—													
Daily average	759	778	763	771	759	757	759	755	734	752	697	706	
Month	23,529	21,784	23,653	23,130	23,529	22,710	23,529	23,405	22,020	23,312	20,910	21,886	273,397
Chandler—													
Daily average	4,056	8,061	5,939	5,996	6,726	6,544	6,981	6,715	6,116	6,102	6,186	6,105	
Month	125,736	225,708	215,109	179,880	208,506	196,320	216,411	208,165	183,480	189,162	185,580	189,255	2,323,312
Stroud—													
Daily average	648	572	664	429	516	510	488	493	509	526	449	472	
Month	20,088	16,016	20,584	12,870	15,996	15,300	15,128	15,283	15,270	16,306	13,470	14,632	190,943
Meeker—													
Daily average	.....	.....	28	72	38	40	22	19	18	17	10	.....	
Month	.....	.....	868	2,160	1,178	1,200	682	589	540	527	300	.....	8,044
Wilzetta—													
Daily average	.....	.....	309	249	302	293	1,013	614	621	454	339	406	
Month	.....	.....	9,579	7,470	9,362	8,790	31,403	19,034	18,930	14,074	10,170	12,586	141,398
Lin Creek (County Line)—													
Daily average	389	363	263	342	328	316	299	311	298	282	277	269	
Month	12,059	10,164	8,153	7,260	10,168	9,480	9,269	9,641	8,940	8,742	8,310	8,329	110,525
KAY, GRANT AND NOBLE COUNTIES:													
Blackwell—													
Daily average	1,507	1,489	1,545	1,424	1,477	1,446	1,454	1,408	1,432	1,471	1,495	1,467	
Month	46,717	41,692	47,895	42,720	45,787	43,380	45,074	43,648	42,960	45,601	44,850	45,477	535,801
Otstot—													
Daily average	666	653	658	638	647	639	638	635	609	562	598	577	
Month	20,646	18,284	20,326	18,900	20,057	19,170	19,778	19,685	18,270	17,422	17,940	17,887	228,375
Deer Creek—													
Daily average	441	439	424	428	417	416	411	394	391	386	389	377	
Month	13,671	12,292	13,144	12,840	12,927	12,480	12,741	12,214	11,730	11,966	11,670	11,687	149,362
Ponca City—													
Daily average	338	336	334	335	306	311	329	306	337	336	296	308	
Month	10,478	9,408	10,354	10,050	9,486	9,330	10,199	9,486	10,110	10,416	8,880	9,548	117,745
Mervine—													
Daily average	156	114	162	143	124	128	129	141	133	126	108	116	
Month	4,836	3,192	5,022	4,290	3,844	3,840	4,309	4,371	3,990	3,906	3,240	3,596	48,436
Braman—													
Daily average	1,425	1,491	1,466	1,462	1,427	1,420	1,477	1,535	1,569	1,552	1,525	1,530	
Month	44,175	41,748	45,446	43,860	44,237	42,600	45,787	47,585	47,070	48,112	45,750	47,430	543,800
Hubbard—													
Daily average	980	876	946	884	955	927	760	914	772	859	760	773	
Month	30,380	24,528	29,326	26,520	29,605	27,810	23,560	28,334	23,160	26,629	22,800	23,963	316,915
Thomas—													
Daily average	342	307	315	284	293	291	312	304	284	282	264	261	
Month	10,602	8,596	9,765	8,526	9,083	8,730	9,672	9,424	8,520	8,742	7,920	8,091	107,965
Tonkawa—													
Daily average	3,943	3,949	3,964	3,998	3,894	3,817	3,859	3,786	3,685	3,781	3,419	3,510	
Month	122,233	110,572	122,884	119,880	120,714	114,510	119,629	117,366	110,550	117,211	102,570	108,810	1,386,929
Billings—													
Daily average	122	102	112	98	116	110	102	98	95	101	76	77	
Month	3,782	2,856	3,472	2,940	3,596	3,300	3,162	3,038	2,850	3,131	2,280	2,387	36,794
Perry—													
Daily average	534	514	499	488	485	510	471	478	477	490	645	638	
Month	16,554	14,392	15,469	14,640	15,035	15,300	14,601	14,818	14,310	15,190	19,350	19,778	189,437
Lucien—													
Daily average	6,492	5,234	5,358	10,560	9,893	8,561	7,502	8,495	8,852	7,522	8,038	8,825	
Month	201,252	146,552	166,098	316,800	306,683	256,830	232,562	263,035	265,560	233,182	241,140	273,575	2,903,269
GARFIELD COUNTY:													
Garber—													
Daily average	2,530	2,736	2,741	2,534	2,418	2,424	2,451	2,485	2,277	2,323	2,311	2,314	
Month	78,430	76,608	84,971	76,020	74,958	72,720	75,981	77,035	68,310	72,013	69,330	71,734	898,110
LOGAN COUNTY:													
Crescent—													
Daily average	581	679	1,304	4,658	4,427	5,446	4,540	3,884	3,704	3,960	3,635	3,710	
Month	18,011	19,012	40,424	139,740	137,237	163,380	140,740	120,466	111,120	122,760	109,050	115,010	1,236,950

(Continued on Next Page)



Essential
For 100% Automatic Control

RESET is the automatic, built-in mechanism that prevents wandering or drift of control point inherent in instruments with wide throttling range or sensitivity. The STABILOG has RESET.

RESET is one of the mechanical fundamentals on which the STABILOG was designed. Because it has RESET and full throttling range adjustment, the STABILOG is 100% automatic at all times. Its function depends on the rate of change and acceleration, making it more nearly "anticipating" than any other automatic control device.

It is not necessary to "nurse" the STABILOG into operation. Neither are additional mechanisms necessary to secure successful operation. It is a complete unit and does a complete job.

For smooth control of temperature, flow, level or pressure use STABILOGS. Write for complete information or send us your specific problem.

FOXBORO
REG. U. S. PAT. OFF.
THE COMPASS OF INDUSTRY

THE FOXBORO COMPANY
FOXBORO, MASS., U. S. A.
BRANCH OFFICES IN ALL PRINCIPAL CITIES

• • COMPLETE REFINERY INSTRUMENT CONTROL • •

Linde Process Service

speeds-up laying of

Sea-going Pipe Line

UPON completion of an oil pipe line to load tankers a half mile out to sea, the Chief Engineer of the oil company was so pleased with the aid rendered by Linde Process Service that he wrote:

"We have recently constructed and successfully launched a 16-in. Submarine Line. The perfect consumation of this job was in no small measure due to the extraordinary efforts of your service organization. We are deeply appreciative of the splendid cooperation accorded us by your company."

This is Linde Process Service at work. It brings to Linde customers —at no extra cost—the latest and best pipe-line welding methods, assists in training and qualifying operators, and helps organize welding operations to insure satisfactory performance.

● OUT TO SEA—for a half mile this 16-in. Oxwelded pipe line rests on ocean bottom . . . supplies tanker cargoes.

● FIVE DAYS—from delivery of pipe to finished job. Linde Process Service cooperated. Oxwelding assured strong, permanent, leakproof, jointless line.

The nearest Linde Sales Office will gladly give you full information on Linde Process Service. These are located at: Atlanta—Baltimore, Birmingham, Boston, Buffalo, Butte —Chicago, Cleveland—Dallas, Denver, Detroit—El Paso—Houston—Indianapolis—Kansas City—Los Angeles—Memphis, Milwaukee, Minneapolis—New Orleans, New York—Philadelphia, Phoenix, Pittsburgh, Portland, Ore.—St. Louis, Salt Lake City, San Francisco, Seattle, Spokane and Tulsa.

Everything for oxy-acetylene welding and cutting—including Linde Oxygen, Prest-O-Lite Acetylene, Union Carbide and Oxweld Apparatus and Supplies—is available from Linde through producing plants and warehouse stocks in all industrial centers.

The Linde Air Products Company

Unit of Union Carbide and Carbon Corporation

In Canada:
Dominion Oxygen Co., Ltd. Toronto

YOU CAN ORDER EVERYTHING FOR OXWELDING AND CUTTING FROM LINDE

in No. 1 Hoyt, NW SW NE Section 5-14-3, Lincoln County. It had first Wilcox sand at 5,061-82 feet from which 87 bbls. of oil and 27 bbls. of water was swabbed. In January it had been drilled to second Wilcox sand at 5,106-13 feet and got a hole full of water. It was plugged back to 5,084 feet and swabbed 80 bbls. of oil in 10 hours which was its status when this was written.

Opening Meeker Pool

The Meeker Pool in Lincoln County was opened by Twin State Oil Co., Sinclair Oil & Gas Co. and Huckleberry with No. 1 Boland, SW cor. Section 25-12-3. It found Wilcox sand at 5,455 feet and at 6 feet in the sand produced 150 bbls. flowing naturally in 24 hours. Later it swabbed 694 bbls. in 24 hours and was completed at a total depth of 5,461 feet. It was later drilled to 5,561 feet.

Langston Pool

The Langston Pool in eastern Logan County was opened early in March by Stanolind Oil & Gas Co. and Amerada Petroleum Corp. with their No. 1 Foutts, NW NE Section 14-17-1w. First Wilcox sand at 5,098-5,102 feet yielded a 650-bbl. production in 24 hours. Second Wilcox sand at 5,240-46 feet yielded nothing but water and the hole was plugged back and shot in the first sand. It produced 60 bbls. in 24 hours. A second shot resulted in a 225-bbl. production. It proved to be a small pool in area.

The Wilzetta Pool in Lincoln County was a February find. Stanolind Oil & Gas Co. and Amerada Petroleum Corp., which companies by the way were the most persistent wildcatters in the State in 1934, got Hunton lime production at 4,241-88 feet in No. 1 Martinez, NW NW SE Section 35-13-5. The well flowed 780 bbls. of oil and 365 bbls. of water in 24 hours. It was deepened to 4,526 feet without effect and plugged back to 4,288 feet, although the base of the Hunton lime was at 4,325 feet. When completed its initial production was 840 bbls.

Newalla Disappointment

One of the disappointments of the year was the Springrose Drilling Co. and others' No. 1 Edwards, C SE SE Section 19-11-1e, in the Newalla district in Oklahoma County, found some production in Hunton lime, topped at 6,028 feet. It flowed by heads as much as 85 bbls. in a day, but the owners were not able to make a commercial well of it. It was drilled to 6,540 feet, topping Sylvan at 6,286 feet, Viola lime at 6,349 feet, Simpson Dense at 6,278 feet, Dolomite at 6,492 feet and Wilcox sand at 6,525 feet, going out of Wilcox and into shale and dolomite at the total depth. The well was still carried on the incompleted list at the close of the year.

Layton Sand Pool in Logan

Anderson & Kerr opened a Layton sand pool in Logan County in No. 1-A Hull, 455 feet south and 330 feet west of NE cor. Section 11-18-4w. Layton lay at 4,775-4,812 feet and the well flowed 227 bbls. in initial production early in May.

Lambert, Kemp and the Blackwell Oil & Gas Co. opened a small Misener sand pool west of the Cushing Field in May. No. 1 Cook, SW NW NE Section 23-17-6, got Misener at 3,070 feet; gas at 3,080 feet, increased gas at 3,084 feet, estimated at 5,000,000 feet and then the oil. It was bottomed at 3,086 feet. It tested only 10 bbls. per hour on the swab and was completed as a 125-bbl. well. Subsequent wells had little or no luck in duplicating the performance of the first well.

Beckham Gas Discovery

Out in Beckham County a gas discovery was added to the gas territory in that county when the West Oak Gas Co. completed No. 1 Powell, NW cor. SW Section 11-9-25w, getting a well at 3,442 feet which produced 20,000,000 feet initially. This was late in April.

OKLAHOMA

Summary of Wells Completed in 1934

County—	Comp.	Prod.	Dry	Gas
Atoka	1	0	1	0
Beckham	4	0	4	0
Carter	61	4,942	18	2
Choctaw	1	0	0	1
Cleveland	2	0	2	0
Coal	1	0	1	0
Comanche	4	16	0	0
Cotton	1	0	1	0
Creek	236	13,549	63	12
Dewey	1	0	1	0
Garfield	5	20	3	0
Garvin	3	0	3	0
Grady	4	60	2	1
Grant	2	0	2	0
Harper	1	0	1	0
Hughes	62	10,946	10	3
Jackson	1	0	1	0
Jefferson	28	741	10	0
Johnston	2	0	2	0
Kay	5	78	2	1
Latimer	1	0	0	1
LeFlore	1	0	0	1
Lincoln	68	54,690	18	0
Logan	27	60,468	1	1
Marshall	47	767	10	0
McClain	2	0	2	0
McCurtain	1	0	1	0
McIntosh	7	0	3	4
Murray	3	0	2	1
Muskogee	27	234	16	3
Noble	53	108,984	5	0
Oklahoma	65	81,163	1	2
Okmulgee	106	2,724	42	9
Okfuskee	42	1,189	13	10
Osage	320	163,656	74	4
Pawnee	10	250	6	0
Payne	3	712	1	0
Pittsburg	7	0	1	6
Pontotoc	115	58,073	34	11
Pottawatomie	128	56,108	21	0
Pushmataha	1	0	1	0
Roger Mills	1	0	1	0
Seminole	106	53,016	22	1
Stephens	64	1,875	23	4
Tulsa	57	1,047	26	9
Wagoner	30	567	14	5
Total 1934	1,717	673,875	465	91
Total 1933	1,093	307,323	353	72
Difference	624	366,552	112	19

COMPLETIONS BY MONTHS

Month—	Comp.	Prod.	Dry	Gas
January	157	54,028	40	11
February	115	19,725	27	8
March	180	79,831	45	11
April	144	72,800	34	12
May	149	71,097	37	11
June	155	55,759	45	5
July	138	48,862	38	8
August	152	69,383	49	3
September	101	51,248	26	3
October	140	54,781	43	8
November	126	53,849	27	7
December	160	42,512	51	9
Total 1934	1,717	673,875	465	91
Total 1933	1,093	307,323	353	72
Difference	624	366,552	112	19
Total 1932	1,130	647,316	381	106
Total 1931	1,058	1,941,805	374	186
Total 1930	3,466	5,628,234	1,002	402
Total 1929	3,613	1,178,945	1,245	369
Total 1928	3,679	1,016,000	1,227	491
Total 1927	4,513	1,971,081	1,443	508

Oklahoma (Continued)

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
Polo—													
Daily average	.....	.....	.....	.....	.....	.....	565	461	406	200	797	1,197	
Month	.....	.....	.....	.....	.....	.....	17,515	14,291	12,180	6,200	23,910	37,107	111,203
Langston—													
Daily average	.....	.....	.....	291	250	246	287	223	248	286	276	274	
Month	.....	.....	.....	8,730	7,750	7,380	8,897	6,913	7,440	8,866	8,280	8,494	72,750
Marshall-Lovell—													
Daily average	1,083	1,136	1,015	1,456	1,345	1,360	1,175	1,187	1,106	1,082	1,036	1,041	
Month	33,573	31,808	31,465	43,680	41,695	40,800	36,425	36,797	33,180	33,542	31,080	32,271	426,316
CARTER COUNTY:													
Healdton—													
Daily average	9,196	9,270	9,246	9,285	9,179	9,182	9,392	9,439	9,305	9,324	9,250	9,254	
Month	285,076	259,560	286,626	278,550	284,549	275,460	291,152	292,609	279,150	289,044	277,500	286,874	3,386,150
Hewitt—													
Daily average	4,989	5,184	4,956	4,994	4,971	4,966	5,064	5,093	4,795	5,013	4,818	4,916	
Month	154,659	145,152	153,636	149,820	154,101	148,980	156,984	157,883	143,850	155,403	144,540	152,396	1,817,404
Sholem-Alechem—													
Daily average	4,534	4,480	4,572	4,512	4,477	4,469	4,385	4,259	4,126	4,178	4,083	4,077	
Month	140,554	125,440	141,732	135,360	138,787	134,070	135,935	132,029	123,780	129,518	122,490	126,387	1,586,082
Tatums—													
Daily average	8,581	8,081	7,401	7,014	7,030	7,016	6,229	5,761	5,525	5,654	5,481	5,472	
Month	266,011	226,268	229,431	210,420	217,930	210,480	193,099	178,591	165,750	175,274	164,430	169,632	2,407,316
Graham-Fox—													
Daily average	3,573	3,613	3,533	3,587	3,780	3,654	3,779	3,742	3,667	3,688	3,422	3,481	
Month	110,763	101,164	109,523	107,610	117,180	109,620	117,149	116,002	110,010	114,328	102,660	107,911	1,323,920
Brock—													
Daily average	512	508	506	502	535	507	532	534	531	529	532	530	
Month	15,872	14,224	15,686	15,060	16,585	15,210	16,492	16,554	15,930	16,399	15,960	16,430	190,402
STEPHENS-COTTON COUNTIES:													
Duncan-Walters and Comanche—													
Daily average	4,546	4,476	4,568	4,604	4,758	4,696	4,543	4,504	4,338	4,622	4,135	4,516	
Month	140,926	125,328	141,608	138,120	147,498	140,880	140,833	139,624	130,140	143,282	124,050	139,996	1,652,285
Loco Milroy—													
Daily average	1,131	1,137	1,162	1,141	1,152	1,147	1,195	1,159	1,152	1,158	1,139	1,133	
Month	35,061	31,836	36,022	34,230	35,712	34,410	37,045	35,929	34,560	35,898	34,170	35,123	419,996
Kilgore—													
Daily average	132	137	131	133	141	136	137	124	142	132	135	134	
Month	4,092	3,836	4,061	3,990	4,371	4,080	4,247	3,844	4,260	4,092	4,050	4,154	49,077
JEFFERSON COUNTY:													
Seay (Hambro)—													
Daily average	2,118	2,310	2,123	2,257	2,135	2,140	2,523	2,524	2,443	2,641	2,412	2,433	
Month	65,658	64,680	65,813	67,710	66,185	64,200	78,213	78,244	73,290	81,871	72,360	75,423	853,647
GARVIN COUNTY:													
Robberson—													
Daily average	1,374	1,377	1,359	1,171	1,322	1,296	1,194	1,208	1,223	1,198	1,293	1,268	
Month	42,594	38,556	42,129	35,130	40,982	38,880	37,014	37,448	36,690	37,138	38,790	39,308	464,659
GRADY COUNTY:													
Knox—													
Daily average	1,737	1,742	1,727	1,690	1,705	1,688	1,601	1,665	1,547	1,673	1,572	1,567	
Month	53,847	48,776	53,537	50,700	52,855	50,640	49,631	51,615	46,410	51,863	47,160	48,577	605,611
MARSHALL COUNTY:													
Madill—													
Daily average	197	201	178	166	168	162	149	157	154	152	145	147	
Month	6,107	5,628	5,518	4,980	5,208	4,860	4,619	4,867	4,620	4,712	4,350	4,557	60,026
Kingston—													
Daily average	171	211	239	221	219	274	315	328	313	305	270	273	
Month	5,301	5,908	7,409	6,630	6,789	8,220	9,765	10,168	9,390	9,455	8,100	8,463	95,598
CADDO COUNTY..													
Cement—													
Daily average	1,966	1,972	1,860	1,883	2,016	2,010	1,902	1,909	1,861	1,819	1,910	1,896	
Daily average	60,946	55,216	57,660	56,490	62,496	60,300	58,962	59,179	55,830	56,389	57,300	58,776	695,544
TILLMAN COUNTY:													
Daily average	923	947	897	883	563	811	748	457	642	721	711	707	
Month	28,613	26,516	27,807	26,490	17,453	24,330	23,188	14,167	19,260	22,351	21,330	21,917	273,422
Daily average	485,586	476,617	489,241	512,613	518,329	537,855	505,200	486,108	416,001	456,632	467,365	471,540	489,453
Total 1934	15,053,166	13,345,276	15,166,471	15,378,390	16,068,199	16,135,650	15,661,200	15,069,348	13,980,030	14,155,592	14,020,950	14,617,740	178,652,012
Total 1933	12,575,832	12,592,132	15,479,726	11,746,170	13,552,797	14,360,910	13,406,374	13,802,382	16,603,890	15,031,032	14,364,030	14,835,174	178,356,449
Total 1932	13,664,149	11,806,190	12,998,796	12,718,020	12,169,420	12,757,230	13,030,571	12,743,666	11,705,280	11,916,811	11,340,930	11,637,171	149,487,234
Total 1931	14,850,953	13,531,980	16,627,687	16,815,990	17,333,867	16,678,200	16,420,080	9,517,279	7,946,850	13,961,893	16,430,730	16,598,399	176,703,848
Total 1930	20,802,984	17,977,624	19,115,406	19,541,310	20,587,503	19,754,700	18,032,514	17,162,034	16,509,120	16,632,528	14,941,770	16,057,103	216,114,591
Total 1929	22,575,874	20,464,164	20,838,262	20,235,390	21,345,453	20,561,112	22,371,925	22,429,522	21,299,490	20,821,646	19,193,760	20,092,876	252,229,474
Total 1928	20,978,320	19,294,426	20,162,524	19,096,920	19,443,255	18,482,981	18,809,188	20,840,804	22,456,860	23,431,071	22,078,650	22,425,722	247,500,851
Total 1927	19,035,426	19,752,348	22,480,921	23,208,130	23,258,463	22,830,330	26,522,546	26,283,350	24,111,660	24,247,053	23,083,380	22,308,417	276,022,624
Total 1926	13,674,512	13,392,016	14,312,886	14,468,190	14,507,008	14,073,510	14,657,482	14,618,236	14,466,510	15,720,689	16,876,950	17,882,908	177,651,198

Many New Pools Opened in Kansas in 1934 and State Breaks Its Annual Production Record

By JAMES McINTYRE

Notwithstanding production was greatly curtailed in Kansas throughout 1934, the state produced more oil than in any other year in its history. More wells were completed than in any year since 1930, completed work last year exceeding that of 1933 by nearly 55 per cent. Initial production was more than 55 per cent over the 1933 record and the total of 300,789 bbls. has not been approached in more than six years.

Reno County led in big initial production the average having been over 1,200 bbls. per well for 60 new oil wells. Some of the gushers in the Haury-Burrton pool in that county started off at 4,000 bbls. a day or greater. McPherson County led in the number of completions with 126, closely followed by Rice County with 121 completions.

The most important development of the year was the discovery of rich Hunton lime production in the Haury-Burrton pool in Eastern Reno County. The pool had been producing from chat until Sinclair Prairie Oil Co. explored for lower horizons in March in a well on the Base Farm in Section 26-23-4w and discovered Hunton lime. For the remainder of the year the Hunton was the objective and some mammoth completions were recorded from that formation. Production increased until the Haury-Burrton pool led all others in the state at the close of the year. The pool in January averaged 2,493 bbls. In April it had advanced to an average of 3,764 bbls. In August it passed the 6,000-bbl. mark and it closed the year with an average of 13,019 bbls. in December.

With the Haury-Burrton Pool producing from Chat and Hunton lime, Barnsdall Oil Co. decided to see what was below, and No. 2 Sabin-C, SW NW SE Section 11-23-4w, was drilled down and found Siliceous lime at 3,775-86 feet, total depth. The hole filled 3,000 feet with oil. The pay was acidized and the well pumped 1,389 bbls. of oil in 22 hours. Content with finding that there was a third prolific zone in the field the company had the well plugged back to the Hunton horizon and completed as a 640-bbl. well in that pay. The Siliceous lime will be developed later, as the operators in the field decided there was no use in putting capital into deeper drilling while the two upper pays were capable of producing more oil than the market could digest. The Barnsdall discovery following the Sinclair Prairie Hunton lime discovery, stamped the pool as of the first class in productiveness.

The total production of Kansas in 1934 was 45,754,117 bbls., an average of 125,354 bbls. per day. The state averaged 128,849 bbls. in December. The record production for a year in that state had been 45,451,000 bbls. in 1918, when the Towanda pool in Butler County made history with its big wells.

Twenty-eight new pools were opened in the state but some of them were of little consequence. Twenty-two may be considered of some importance, and their development should maintain production in the state to the level of the past several years. Kansas does not produce near its potential, and therefore may be relied upon to maintain relatively high average for this year at least, even though no important strikes are made in 1935.

The wells listed below are all discovery wells. As said before, some of them

Kansas

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
SEDGWICK COUNTY:													
Wright—													
Daily average	1,870	1,895	2,138	2,225	2,232	2,226	2,092	1,982	1,811	1,981	2,118	2,064	
Month	57,970	53,060	66,278	66,750	69,192	66,780	64,852	61,442	54,330	61,411	63,540	63,984	749,589
Greenwich—													
Daily average	1,904	2,469	2,832	3,144	2,840	2,957	2,369	2,270	2,496	2,629	2,120	2,133	
Month	59,024	69,132	87,792	94,320	88,040	88,710	73,439	70,370	74,880	81,809	63,600	66,122	917,239
Robbins—													
Daily average	545	468	470	398	392	404	998	1,308	1,142	1,269	1,959	1,944	
Month	16,895	13,104	14,570	11,940	12,152	12,120	30,938	40,548	34,260	39,339	58,770	60,264	344,980
Eastborough—													
Daily average	1,173	1,362	1,436	1,501	1,400	1,414	1,364	1,389	1,316	1,339	1,229	1,294	
Month	36,363	38,136	44,516	45,030	43,400	42,420	42,284	43,059	39,480	41,509	36,870	40,114	493,181
Miscellaneous—													
Daily average	642	676	694	832	700	763	705	788	750	678	663	655	
Month	19,902	18,928	21,514	24,960	21,700	22,890	21,855	24,428	22,500	21,018	19,590	20,305	259,590
MARION COUNTY:													
Florence-Urschel—													
Daily average	134	112	142	115	140	128	107	96	135	200	171	169	
Month	4,154	3,136	4,402	3,450	4,340	3,840	3,317	2,976	4,050	6,200	5,130	5,239	50,234
Peabody—													
Daily average	297	271	283	267	275	269	307	247	212	290	265	287	
Month	9,207	7,588	8,773	8,010	8,525	8,070	9,517	7,657	6,360	8,990	7,950	8,897	99,544
Covert-Sellers—													
Daily average	313	348	346	291	329	298	295	250	261	305	293	294	
Month	9,703	9,744	10,726	8,730	10,199	8,940	9,145	7,750	7,830	9,455	8,790	9,114	110,126
Lost Springs—													
Daily average	244	223	301	294	388	307	313	382	340	418	396	409	
Month	7,564	6,244	9,331	8,820	12,028	9,210	9,703	11,842	10,200	12,958	11,880	12,679	122,459
Davis—													
Daily average	360	348	337	540	444	452	462	444	413	426	409	417	
Month	11,160	9,744	10,447	16,200	13,764	13,560	14,322	13,764	12,390	13,206	12,270	12,927	152,754
BUTLER COUNTY:													
Elbing—													
Daily average	1,085	1,182	1,218	1,273	1,275	1,262	1,220	1,155	1,030	1,112	1,071	1,067	
Month	33,635	33,096	37,758	38,190	39,525	37,860	38,130	35,805	30,900	34,472	32,130	33,077	424,578
Potwin—													
Daily average	749	816	679	656	865	829	953	991	1,063	1,067	973	982	
Month	23,219	22,848	21,049	19,680	26,815	24,870	29,543	30,721	31,890	33,077	29,190	30,442	323,344
South Augusta—													
Daily average	1,047	1,008	1,134	1,133	1,219	1,184	1,224	1,220	1,102	1,139	1,050	1,053	
Month	32,457	28,224	35,154	33,990	37,789	35,520	37,944	37,820	33,060	35,309	31,500	32,643	411,410
North Augusta—													
Daily average	923	1,004	1,105	1,134	1,102	1,090	1,125	1,144	1,161	1,136	1,034	1,017	
Month	28,923	28,112	34,255	33,720	34,162	32,700	34,875	35,464	34,830	35,216	31,020	31,527	394,804
Towanda—													
Daily average	2,211	2,191	2,120	2,278	2,319	2,314	2,249	2,257	2,177	2,235	2,089	2,102	
Month	68,541	61,348	65,720	68,340	71,889	69,420	69,719	69,967	65,310	69,285	62,670	65,162	807,371
Cameron-Robinson—													
Daily average	392	361	352	368	345	360	347	341	343	319	326	318	
Month	12,152	10,108	11,842	11,040	10,695	10,800	10,757	10,571	10,290	9,889	9,780	9,858	127,782
Sluss-Smock—													
Daily average	265	262	241	262	244	251	250	246	239	241	253	246	
Month	8,215	7,336	7,471	7,860	7,564	7,530	7,750	7,626	7,170	7,471	7,590	7,626	91,709
Nuttle-Koogler—													
Daily average	2,612	2,763	2,774	2,739	2,694	2,702	2,765	2,586	2,436	2,356	2,154	2,119	
Month	80,972	77,364	85,994	82,170	83,514	81,060	85,803	80,166	73,080	73,036	64,620	65,689	933,473
Wilson-Dunkle—													
Daily average	1,225	1,242	1,324	1,248	1,332	1,316	1,330	1,342	1,297	1,374	1,345	1,360	
Month	37,975	34,776	41,044	37,440	41,292	39,480	41,230	41,602	38,910	42,594	40,350	42,160	478,853
Eldorado—													
Daily average	5,359	5,542	5,504	5,511	5,403	5,410	5,584	5,469	5,381	5,395	5,184	5,160	
Month	166,129	155,176	170,624	165,330	167,493	162,300	173,104	169,539	161,430	167,245	155,520	159,960	1,973,850
Leon-Weaver—													
Daily average	2,281	2,325	2,321	2,319	2,230	2,211	2,372	2,279	2,249	2,323	2,247	2,250	
Month	70,711	65,100	71,951	69,570	69,130	66,330	73,532	70,649	67,470	72,013	67,410	69,740	833,616
Fox-Bush—													
Daily average	728	686	666	687	666	671	649	632	611	656	623	631	
Month	22,568	19,208	20,646	20,610	20,646	20,130	20,119	19,592	18,330	20,336	18,690	19,561	240,436
Douglass—													
Daily average	228	167	177	168	179	170	149	153	149	145	125	127	
Month	7,068	4,676	5,487	5,040	5,549	5,100	4,619	4,743	4,470	4,495	3,750	3,937	58,934
Keighly—													
Daily average	271	238	243	269	259	247	245	248	237	231	224	232	
Month	8,401	6,664	7,532	8,070	8,029	7,410	7,595	7,688	7,110	7,161	6,720	7,192	89,573
Benton—													
Daily average	24	12	18	19	19	18	22	23	22	23	20	20	
Month	744	336	558	570	589	540	682	713	660	713	600	626	7,225
Blankenship—													
Daily average	485	468	482	491	492	483	498	483	418	435	484	411	
Month	15,035	13,104	14,942	14,730	15,252	14,490	15,438	14,973	12,540	13,485	12,120	12,741	168,850

(Continued on Next Page)

BULL-DOGGING and BULL-DOZING

You can Bull-Dog a steer but you cannot Bull-Doze the oil industry.

We believe the time has come when you need no longer have fear of threats or intimidations.

The Chemical Process Company has added to its reputation and prestige each month as the leading acid treating company due to fair dealing and prompt, efficient and courteous service.

The business of The Chemical Process Company has been built through the use of a most practical method of acid treatment. Our treaters know an oil well and no job is too tough for us to handle.

When you want the best to be had in acid treatments, call our nearest service office.

We Get Results

THE CHEMICAL PROCESS COMPANY, INC.

Main Office: Breckenridge, Texas

Wichita, Kansas—Tel. 2-2478—Rufus Clay
Seminole, Oklahoma—Tel. 844—J. B. D. Woodburn
Big Spring, Texas—Tel. 285—D. B. Striplin
Wichita Falls, Texas—Tel. 2-4307—W. E. (Bill) Norton
Breckenridge, Texas—Tel. 206—P. W. Pitzer, C. K. West, C. F. Hogan, G. R. Whitney

did not uncover much production, but on the other hand valuable discoveries were made in central western and western counties which warrant following up this year.

New Pools in Russell County

Tom Palmer opened the Russell pool in Russell County in February with No. 1 Steinle, NW SW Section 22-13-14w. Siliceous lime was found at 3,283-86 feet and the hole filled 2,000 feet with oil. It was completed in March with an initial production of 1,089 bbls. in 24 hours. By the end of the year this pool had 13 completed oil wells and six more were drilling.

The discovery well was drilled on a 1,600-acre block owned by Mr. Palmer. It was part of a large block which had been owned for 10 years by the Prairie Oil & Gas Co., but which was surrendered after the consolidation of the Sinclair & Prairie companies.

Hartman & Skaer in their No. 1 Fink, in Section 16-14-14w plugged back from a total depth of 3,479 feet and tested Oswald lime at 3,170 feet and got a 278-bbl. initial producer opening a new horizon for that part of the county.

The Lario Oil & Gas Co. and Texas Co. opened a Russell County pool in September with No. 1 Neidenthal, NE NE NE Section 23-14-15w. It found Siliceous lime at 3,246-50 feet and started at 706 bbls. per day. Two producing wells were added to this pool before the close of the year, and four were drilling.

Reno County

Two pools were opened in Reno County in the course of the year. The Hilger pool was discovered by Stanolind Oil & Gas Co. and Amerada Petroleum Co.'s No. 1 Hilger in April. The well, in SE SE NW Section 16-26-4w found Viola lime at 4,062-67 feet, the well starting off at 968 bbls. of oil and 180 bbls. of water.

Hartman and others' No. 1 Stone C NW NW Section 15-24-4w, Reno County, had Mississippi lime at 3,308 feet, and pay at 3,337-44 feet, and pumped 523 bbls. of oil and 40 bbls. of water. The well was completed late in September.

McPherson Discovery

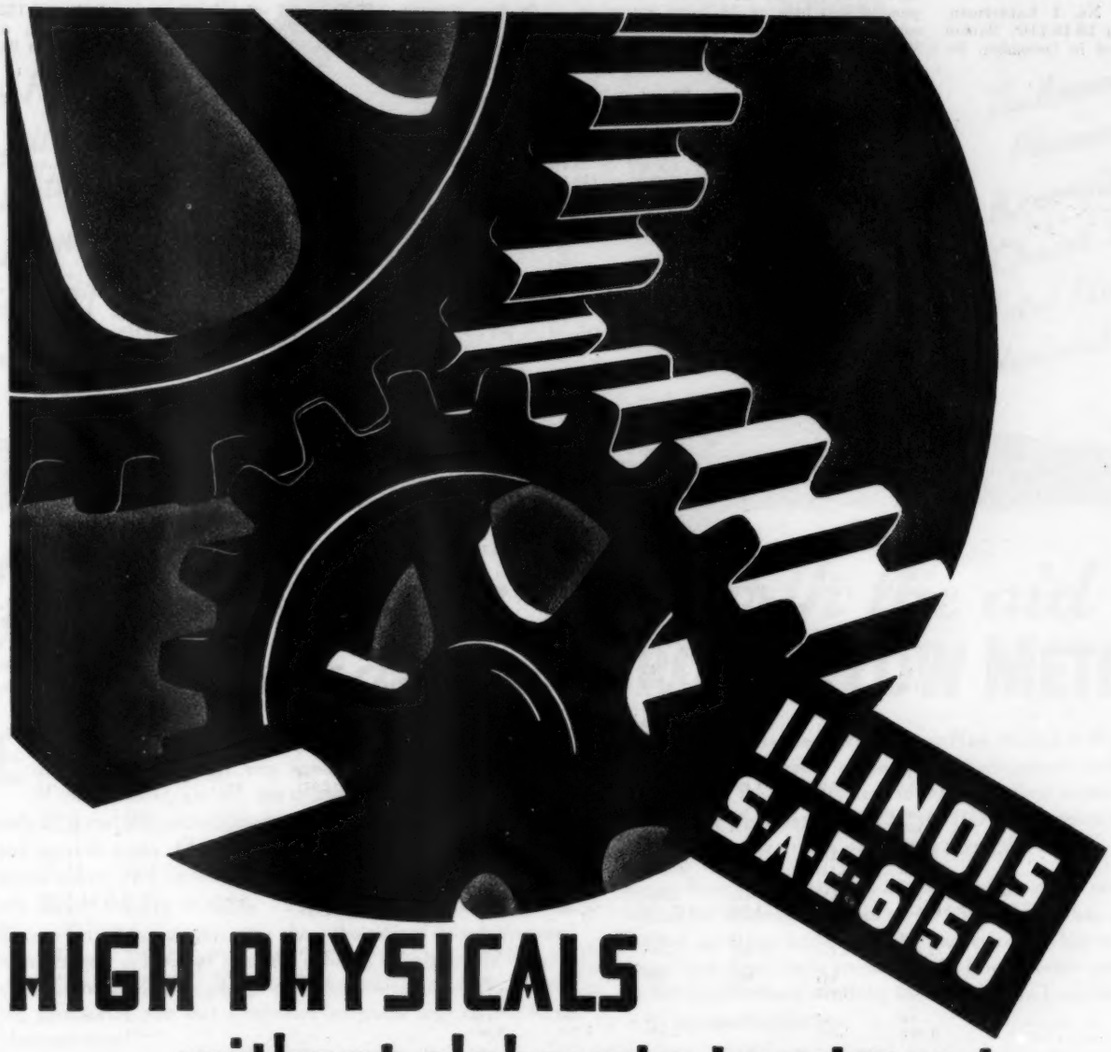
In McPherson County Continental Oil Co. opened the Graber pool in June, its

Kansas (Continued)

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
GREENWOOD AND WOODSON COUNTIES:													
Sallyards—													
Daily average	724	725	761	740	728	741	731	744	653	693	745	703	
Month	22,444	20,300	23,591	22,200	22,568	22,230	22,661	23,064	19,590	21,638	22,350	21,793	264,429
Teeter—													
Daily average	2,201	2,010	2,164	2,143	2,092	2,088	2,007	2,097	2,042	2,180	2,106	2,088	
Month	68,231	56,280	67,084	64,290	64,852	62,460	62,217	65,007	61,260	67,580	63,180	64,728	767,349
Virgil—													
Daily average	4,284	4,112	4,262	4,198	4,741	4,514	4,205	4,092	3,899	3,961	3,889	3,867	
Month	132,804	115,136	132,122	125,940	146,971	135,420	130,355	126,852	116,970	122,791	116,670	119,877	1,521,908
Thrall-Burkett—													
Daily average	685	692	678	665	656	651	467	630	651	622	587	590	
Month	21,235	19,376	21,018	19,950	20,336	19,530	14,477	19,530	19,530	19,282	17,610	18,290	230,164
Seeley—													
Daily average	3,492	3,504	3,470	3,479	3,440	3,446	3,260	3,252	3,253	3,221	3,277	3,262	
Month	108,283	98,112	107,570	104,370	106,640	103,380	101,060	100,812	97,590	99,851	98,310	101,122	1,227,100
Polhamus—													
Daily average	492	443	505	507	479	490	469	488	431	462	445	447	
Month	15,252	12,964	15,655	15,210	14,849	14,700	14,539	15,128	12,930	14,322	13,350	13,857	172,756
Miscellaneous—													
Daily average	488	462	495	521	580	562	567	589	512	552	536	526	
Month	15,128	12,936	15,345	15,630	17,980	16,860	17,577	18,259	15,360	17,112	16,080	16,306	194,573
COWLEY COUNTY:													
Winfield-New Salem—													
Daily average	2,249	2,094	2,171	1,993	1,971	1,906	1,667	1,601	1,538	1,566	1,628	1,600	
Month	69,719	58,632	67,301	59,790	61,101	57,180	51,677	49,631	46,140	48,546	48,690	49,600	668,007
Rainbow Bend—													
Daily average	1,079	1,101	1,139	1,123	1,097	1,072	1,143	1,128	1,087	1,080	1,139	1,096	
Month	33,449	30,828	35,309	33,690	34,007	32,160	35,433	34,968	32,610	33,480	34,170	33,976	404,080
Rock—													
Daily average	91	76	90	103	84	88	82	87	75	73	80	74	
Month	2,821	2,128	2,790	3,090	2,604	2,640	2,542	2,697	2,250	2,263	2,400	2,294	30,519
Slick-Graham—													
Daily average	431	448	431	369	449	411	455	458	406	442	354	367	
Month	13,454	12,544	13,361	11,070	13,919	12,330	14,105	14,198	12,180	13,702	10,620	11,377	152,860
Eastman—													
Daily average	245	236	246	239	240	233	263	269	276	270	268	271	
Month	7,595	6,608	7,626	7,170	7,440	6,990	8,153	8,339	8,280	8,370	8,040	8,401	93,012
Miscellaneous—													
Daily average	843	779	796	764	778	763	1,009	1,098	1,033	1,063	981	1,002	
Month	26,298	21,812	24,676	22,920	24,118	22,890	31,279	34,038	30,990	32,953	29,430	31,062	332,456
McPHERSON COUNTY:													
Ritz-Canton—													
Daily average	12,449	13,529	14,429	14,468	14,207	14,517	14,220	12,754	11,119	10,106	9,473	11,448	
Month	385,919	378,812	447,299	434,040	440,417	435,510	440,820	395,374	333,570	313,286	284,190	354,888	4,644,125
Voshell—													
Daily average	7,321	7,115	7,195	7,678	7,280	6,829	6,855	6,389	5,755	6,019	5,197	5,512	
Month	226,951	199,220	223,045	230,340	225,780	207,870	212,505	198,059	172,650	186,589	155,910	170,872	2,412,791
Johnson—													
Daily average	1,473	1,754	1,977	1,974	2,053	1,961	2,036	1,946	1,714	1,824	1,774	1,805	
Month	45,663	49,112	61,287	59,220	63,643	58,830	63,116	60,326	51,420	56,544	53,220	55,955	678,336
Nikkell—													
Daily average	3,347	3,811	5,659	6,331	5,745	7,311	7,779	6,914	5,660	5,873	5,146	5,178	
Month	103,757	106,708	175,429	189,930	178,095	219,330	241,149	214,334	169,800	182,063	154,380	160,518	2,095,493
Graber—													
Daily average	.....	.....	.....	.....	.....	170	63	146	120	283	262	306	
Month	.....	.....	.....	.....	.....	5,100	1,953	4,526	3,600	8,773	7,860	9,486	41,298
Miscellaneous—													
Daily average	72	65	62	67	68	69	70	73	71	64	85	65	
Month	2,232	1,820	1,922	2,010	2,108	2,070	2,170	2,263	2,130	1,984	1,950	2,139	24,798
HARVEY COUNTY—													
Hollow—													
Daily average	8,792	9,774	13,338	13,258	13,261	9,779	9,510	8,060	7,059	5,969	6,072	6,410	
Month	272,552	273,672	413,478	397,740	411,091	293,370	294,810	249,860	211,770	185,039	182,160	198,710	3,384,252
Newton—													
Daily average	74	86	116	120	108	111	180	114	103	110	111	133	
Month	2,294	2,408	3,596	3,600	3,348	3,330	5,580	3,534	3,090	3,410	3,330	4,123	41,643
RENO COUNTY:													
Haury-Burrton—													
Daily average	2,492	2,770	3,082	3,764	5,325	5,236	5,623	6,173	6,457	8,225	11,000	13,019	
Month	77,283	77,560	95,542	112,920	165,075	157,080	174,313	191,363	193,710	254,975	330,000	403,589	2,233,410
Hilger—													
Daily average	.....	.....	.....	43	135	137	104	242	231	235	196	202	
Month	.....	.....	.....	1,290	4,185	4,110	3,224	7,502	6,930	7,285	5,880	6,262	46,668
Abbyville—													
Daily average	33	80	44	114	65	150	146	179	150	243	256	251	
Month	1,023	2,240	1,364	3,420	2,015	4,500	4,526	5,549	4,500	7,533	7,980	7,781	52,431
RICE COUNTY:													
Raymond—													
Daily average	1,814	1,756	2,076	2,244	2,017	2,226	2,113	2,269	1,915	2,458	2,398	2,590	
Month	56,234	49,168	62,806	67,320	62,527	66,780	65,503	70,329	57,450	76,198	71,940	80,290	786,555
Sharpe—													
Daily average	415	752	1,624	2,187	2,493	3,202	3,776	3,075	2,722	2,860	2,788	2,946	
Month	12,865	21,056	50,344	65,610	77,283	96,060	117,056	95,325	81,660	88,660	83,640	91,326	880,885
Welch—													
Daily average	744	719	765	798	818	790	734	676	681	867	953	672	
Month	23,064	20,132	23,715	23,880	25,358	23,700	22,754	20,956	20,430	26,877	28,590	20,832	280,288
Thode—													
Daily average	71	72	96	87	88	79	295	243	181	197	192	232	
Month	2,201	2,016	2,976	2,610	2,728	2,370	9,145	7,533	5,430	6,107	5,760	7,192	56,068
Orth—													
Daily average	312	315	378	371	339	313	308	266	249	293	313	259	
Month	9,672	8,820	11,718	11,130	10,509	9,390	9,548	8,246	7,470	6,293	9,390	8,029	110,215
Beyer—													
Daily average	242	333	411	424	431	420	460	516	372	364	308	347	
Month	7,502	9,464	12,741	12,020	13,361	12,600	14,260	15,996	11,160	11,284	9,240	10,757	141,385
Genesseo—													
Daily average	.....	.....	.....	.....	.....	127	90	168	290	361	432	614	
Month	.....	.....	.....	.....	.....	3,810	2,790	5,208	8,700	9,331	12,960	19,034	61,833
Ploog—													
Daily average	.....	.....	128	185	169	192	180	159	119	139	141	251	
Month	.....	.....	3,968	5,550	5,239	5,760	5,580	4,929	3,570	4,309	4,230	7,781	50,916
Chase—													
Daily average	2,664	2,804	4,273	4,416	4,447	5,227	5,492	4,893	4,841	5,196	5,964	5,586	
Month	82,584	78,512	132,463	132,480	137,857	156,810	170,252	151,838	145,230	161,138	178,920	173,166	1,701,250
Steckel—													
Daily average	65	88	93	98	105	101	111	103	105	109	90	96	
Month	2,015	2,464	2,883	2,940	3,255	3,030	3,441	3,193	3,150	3,379	2,700	2,976	35,426
Brandenstein—													
Daily average	207	195	414	402	256	249	498	612	405	412	444	376	
Month	6,417	5,572	12,834	12,060	7,936	10,470	15,438	18,972	12,270	12,772	13,320	8,556	136,617

(Continued on Next Page)



HIGH PHYSICALS

without elaborate treatment

HERE'S a steel that has been called "fool-proof" from a heat-treating standpoint. It can be brought to the desired tensile strength by a simple quenching and drawing treatment.

Illinois' S. A. E. 6150 is uniform in grain structure and has high resistance to shock. It is readily forged and can be machined to a fine finish. It is subject to only slight distortion under oil hardening and hence is useful for parts which must be heat treated after machining.

Illinois Steel Company will be glad to furnish further information on this or other alloy steels—or to consult with you regarding applications to your specific needs.

ILLINOIS STEEL COMPANY

208 SOUTH LA SALLE STREET, CHICAGO, ILLINOIS

United States Steel Corporation Subsidiary

ILLINOIS *alloy* STEELS

ALWAYS DEPENDABLE

No. 1 Graber, NE NE NW Section 32-21-1w starting off pumping 870 bbls. from Hunton lime at 3,274-98 feet, but later when acidized pumped 1,294 bbls. and was completed. Three other wells followed the discovery well before the close of the year.

Discoveries in Barton

Murphin & Davis No. 1 Lanterman, NW NW SE Section 15-19-11w, Barton County, was completed in December. Siliceous lime lay at 3,332-55 feet. The well pumped at the rate of 270 bbls. per day.

Darby Petroleum Co. in the closing days of December added a Siliceous lime pool to Barton County's list of pools with its No. 1 Jarus, NW SW NE Section 16-16-12w. The lime was topped at 3,348 feet, pay lay at 3,348-51 feet. It pumped 486 bbls. in 18 hours but when completed in January, 1935, it pumped 596 bbls. in 24 hours.

Atlantic Oil Producing Co.'s No. 1 Straub, C SE NW Section 36-18-11w Barton County, was acidized in Siliceous lime at 3,286-3,310 feet and the well pumped 45 bbls. of oil and 15 bbls. of water in 24 hours. It was completed in August.

Rice County's New Pools

In Rice County, Yingling and others' No. 1 Maupin, NW SW SW Section 1-18-8w, pumped 104 bbls. of oil and 2 bbls. of water from Viola lime at 3,233-39 feet. It was acidized and pumped 00 bbls. in 24 hours. The well was deepening at the close of the year.

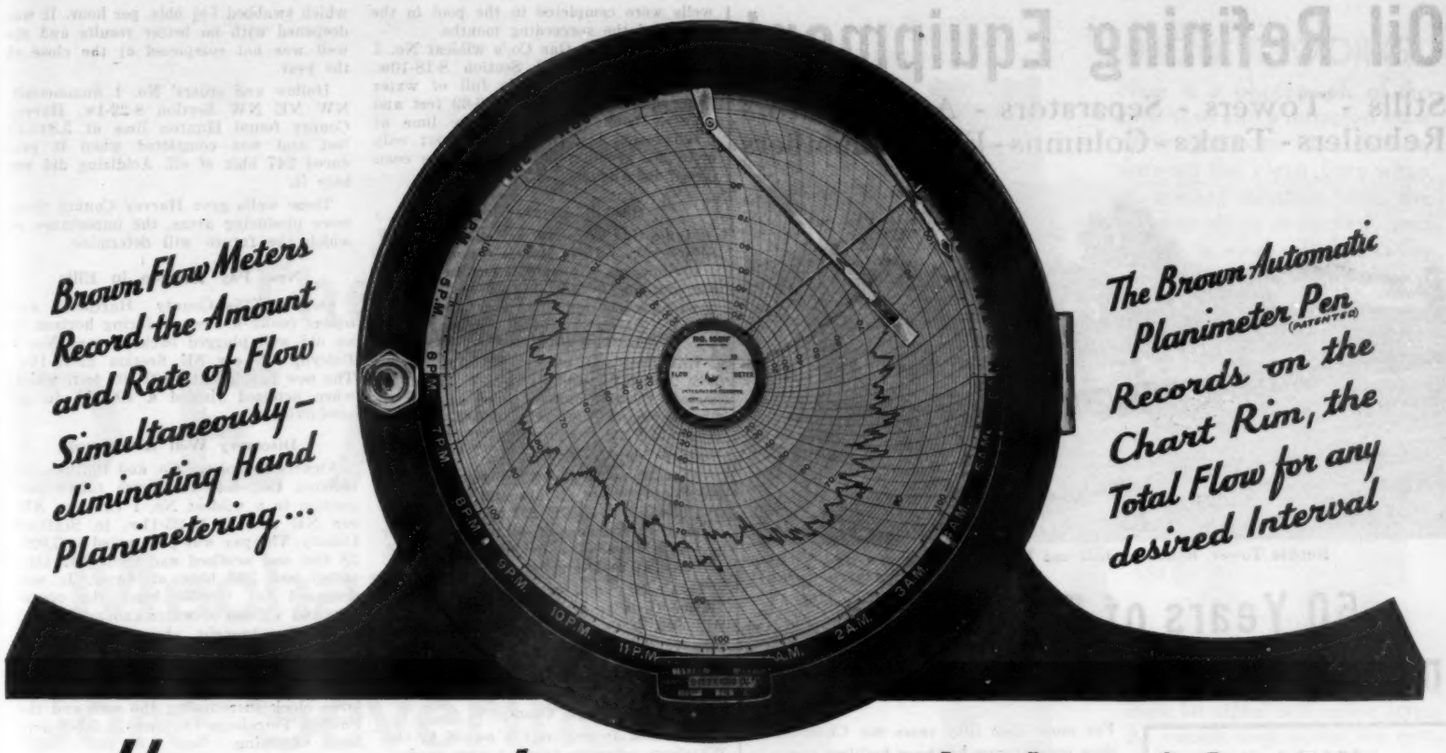
The Continental Oil Co., Empire Oil & Refining Co. and Shell Petroleum Corp. opened the Gennesco pool in Rice County in June, with No. 1 Bennett, NW NW SE Section 25-18-8w. Siliceous lime was had at 3,132-75 feet. The well swabbed 941 bbls., and when acidized made 1,294 bbls. in 24 hours. Two other

Kansas (Continued)

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
BARTON COUNTY:													
Isern—													
Daily average	246	277	332	354	437	588	515	462	374	417	380	401	
Month	7,626	7,756	10,292	10,620	13,547	17,640	15,965	14,353	11,220	12,927	11,400	12,431	145,777
Ellenwood—													
Daily average	425	486	644	818	805	881	1,010	982	833	949	895	1,119	
Month	13,175	13,608	19,964	24,540	24,955	26,430	31,310	30,473	24,990	29,419	26,850	34,689	300,103
RUSSELL COUNTY:													
Fairport—													
Daily average	3,899	3,768	4,224	3,977	3,803	3,933	3,822	4,116	3,802	3,865	3,722	3,773	
Month	120,869	105,504	130,944	119,310	117,893	117,990	118,482	127,596	114,060	119,815	111,660	116,963	1,421,086
Gorham—													
Daily average	1,005	1,131	1,455	1,561	1,557	1,378	1,446	1,394	1,314	1,466	1,702	1,583	
Month	31,155	32,068	45,105	46,830	48,267	41,340	44,826	43,214	39,420	45,446	51,060	49,073	518,804
Miscellaneous—													
Daily average	675	547	1,070	1,046	1,020	1,441	2,026	2,080	2,018	2,569	3,824	2,590	
Month	20,925	15,316	33,170	31,380	31,620	43,230	62,806	64,480	60,540	79,639	84,720	80,290	608,116
ELLSWORTH COUNTY:													
Stratman—													
Daily average	1,308	1,120	1,170	1,324	1,084	914	764	835	864	933	698	671	
Month	40,548	31,360	36,270	37,020	33,604	27,420	23,684	25,885	25,920	28,923	20,940	20,801	352,375
Breford—													
Daily average	277	282	310	304	270	269	251	304	287	197	387	404	
Month	8,587	7,896	9,610	9,120	8,370	8,070	7,781	9,424	8,610	6,107	11,610	12,524	107,709
Heikin—													
Daily average	134	138	138	138	307	225	321	288	315	202	479	138	
Month	4,154	3,864	4,278	4,140	9,517	6,750	9,951	8,928	9,450	6,262	14,370	4,278	85,942
Stoltenberg—													
Daily average	1,340	1,416	1,849	1,824	1,650	1,774	1,766	1,958	1,669	1,602	1,489	1,858	
Month	41,540	39,648	57,319	54,720	51,150	53,220	54,715	60,698	50,070	49,662	44,670	57,598	615,910
STAFFORD COUNTY:													
Richardson—													
Daily average	580	645	933	957	865	1,396	1,306	1,066	898	1,115	1,079	1,182	
Month	17,980	18,060	28,923	28,710	26,815	41,880	40,486	33,046	26,940	34,565	32,370	36,642	366,417
Gates—													
Daily average	16	64	59	58	75	125	432	107	307	357	369	352	
Month	496	1,792	1,829	1,740	2,325	3,750	13,392	3,317	9,210	11,067	11,070	10,912	70,900
Neola—													
Daily average	.....	.....	.....	55	130	47	.....	.....	.....	.....	.....	.....	
Month	.....	.....	.....	1,650	4,030	1,410	.....	.....	.....	.....	.....	.....	
OTHER COUNTIES:													
Rooks—													
Daily average	27	29	39	30	42	40	84	67	69	65	115	59	
Month	837	560	1,209	900	1,302	1,200	2,604	2,077	2,070	2,015	3,450	1,829	20,053
Sumner—													
Daily average	3,000	3,995	3,287	3,191	3,138	3,144	2,891	2,922	3,372	3,349	3,047	3,082	
Month	93,000	83,860	101,897	95,730	97,278	94,320	89,621	90,582	101,160	103,819	91,410	95,542	1,138,219
Chautauqua—													
Daily average	1,606	1,583	1,578	1,582	1,543	1,590	1,671	1,605	1,614	1,627	1,568	1,579	
Month	49,786	44,324	48,918	47,460	47,832	47,700	51,801	49,755	48,420	50,437	47,040	48,949	582,124
Elk—													
Daily average	1,454	1,575	1,442	1,449	1,626	1,618	1,681	1,710	1,746	1,749	1,689	1,712	
Month	45,074	44,100	44,702	43,470	50,406	48,540	52,111	53,010	52,380	54,219	50,670	53,072	591,754
Wilson—													
Daily average	183	179	177	177	154	162	166	164	161	169	167	166	
Month	5,673	5,012	5,487	5,310	4,774	4,860	5,146	5,084	4,830	5,239	5,010	5,146	61,571
Montgomery—													
Daily average	922	964	962	949	899	937	921	932	927	941	802	817	
Month	28,582	26,992	29,822	28,470	27,869	28,110	28,551	28,892	27,810	29,171	24,060	25,327	333,656
Edwards—													
Daily average	42	45	.....	60	101	100	.....	.....	.....	43	.....	31	
Month	1,302	1,260	.....	1,800	3,131	3,000	.....	.....	.....	1,333	.....	961	12,787
Ellis—													
Daily average	315	278	344	355	631	692	558	518	467	504	423	385	
Month	9,765	7,784	10,664	10,650	19,561	20,760	17,298	16,058	14,010	15,624	12,690	11,935	166,799
Kingman—													
Daily average	333	909	1,636	1,799	1,796	1,805	1,422	1,294	1,329	1,153	1,033	1,201	
Month	10,323	25,452	50,716	53,970	55,676	54,150	44,082	40,114	39,870	35,743	30,990	37,231	478,317
Allen—													
Daily average	491	464	471	466	436	445	394	402	409	401	394	399	
Month	15,221	12,992	14,601	13,980	13,516	13,350	12,214	12,462	12,270	12,431	11,820	12,369	157,226
Neosho—													
Daily average	470	482	464	472	464	470	410	390	403	397	392	392	
Month	14,570	13,496	14,384	14,160	14,384	14,100	12,710	12,090	12,090	12,307	11,760	12,152	158,233
Lyon—													
Daily average	247	222	249	246	258	251	240	253	234	232	226	229	
Month	7,657	6,216	7,719	7,380	7,998	7,530	7,440	7,843	7,020	7,192	6,780	7,099	87,874
Miami—													
Daily average	873	851	834	841	766	778	699	707	651	686	618	630	
Month	27,063	23,828	25,854	25,230	23,746	23,340	21,669	21,917	19,530	21,266	18,540	19,530	271,513
Franklin—													
Daily average	268	264	257	260	233	250	213	217	202	227	193	199	
Month	8,308	7,392	7,967	7,800	7,223	7,500	6,602	6,727	6,060	7,037	5,790	6,169	84,576
Labette—													
Daily average	15	16	16	15	13	14	13	14	11	14	12	13	
Month	465	448	496	450	402	420	403	434	330	434	360	402	5,046
Bourbon—													
Daily average	56	52	46	47	31	37	26	27	21	27	26	25	
Month	1,736	1,456	1,426	1,410	961	1,110	806	837	630	837	780	775	12,764
Linn—													
Daily average	96	101	102	99	95	94	89	92	89	91	89	88	
Month	2,976	2,828	3,162	2,970	2,945	2,820	2,759	2,852	2,670	2,821	2,670	2,728	34,201
Anderson—													
Daily average	811	1,225	889	907	832	849	889	885	823	871	816	860	
Month	25,141	34,300	27,559	27,210	25,822	25,470	26,939	27,435	24,690	27,001	24,480	26,660	322,708
Woodson-Miscellaneous—													
Daily average	13	16	20	23	24	25	9	11	10	15	11	13	
Month	403	448	620	690	744	750	279	341	300	465	330	403	5,773
Rush County—													
Daily average	10	.....	.....	.....	.....	.....	.....	62	51	.....	.....	14	
Month	310	.....	.....	.....	.....	.....	.....	1,953	1,530	.....	.....	434	4,227
Barber County—													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	66	28	
Month	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,980	868	2,848
Daily average	108,415	113,333	127,682	131,328	131,714	132,369	122,989	128,100	120,240	124,214	124,061	128,849	125,354
Total 1934	3,360,865	3,173,324	3,958,142	3,939,840	4,085,134	3,971,070	4,122,659	3,971,100	3,607,200	3,850,634	3,721,830	3,994,319	45,754,117
Total 1933	2,871,282	2,801,512	3,604,539	3,492,990	3,277,102	3,210,150	4,068,130	3,998,294	3,729,000	3,287,643	3,599,406	3,455,725	41,305,768
Total 1932	3,170,587	2,838,839	3,042,929	2,974,080	3,038,920	2,837,179	2,906,808	3,046,959	2,970,750	2,892,486	2,841,780	2,777,879	35,339,296
Total 1931	3,432,478	3,341,016	3,498,598	3,281,880	3,341,366	3,175,440	3,089,832	3,141,323	3,147,030	3,177,066	3,131,670	3,198,642	38,956,338
Total 1930	3,273,197	2,966,704	3,504,395	3,734,253	3,978,395	3,765,060	3,841,409	3,491,536	3,405,510	3,571,913	3,459,330	3,432,661	42,123,847
Total 1929	2,861,643	2,657,968	2,951,076	3,112,740	3,665,099	3,636,150	3,867,187	3,816,552	3,780,690	3,429,468	3,430,560	3,549,066	40,658,170
Total 1928	3,319,325	3,079,887	3,379,031	3,412,260	3,367,809	3,202,950	3,171,548	3,147,055	3,047,250	3,058,460	2,977,800	2,988,400	38,150,878
Total 1927	3,769,879	3,352,076	3,675,143	3,516,930	3,704,314	3,437,580	3,454,082	3,442,240	3,341,340	3,509,169	3,312,650	3,427,174	41,943,577
Total 1926	3,250,536	2,877,812	3,334,887	3,336,120	3,516,040	3,366,450	3,582,267	3,681,436	3,450,060	3,714,637	3,593,490	3,654,156	41,346,511

Brown Flow Meters Record the Amount and Rate of Flow Simultaneously — eliminating Hand Planimetering...



The Brown Automatic Planimeter Pen (PATENTED) Records on the Chart Rim, the Total Flow for any desired Interval

You can reduce costs with the aid of chart records from BROWN FLOW METERS

EFFICIENT and economical operation of refineries today is dependent in no small way upon the accurate measurement of steam, water, air, oil, gas or other fluids. Continuous records of these vital factors enable you to properly allocate costs and prevent waste. Chart records from Brown Flow Meters show when, where and how much flow passed through your lines for any part of the day or night.

Brown Flow Meters not only show the rate of flow but record it in volume units — of pounds, gallons, barrels, cubic feet, — etc. — a feature made possible by the Brown automatic recording planimeter pen that eliminates integrator logging and hand planimetering.

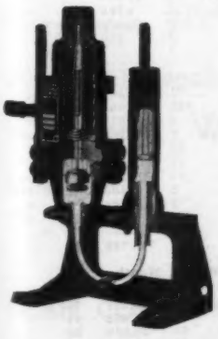
By simply referring to the automatic planimeter pen record on chart rim, it assists you to distribute departmental or process loads more uniformly over the working day.

Another exclusive feature of Brown Flow Meters is the flexibility of interchangeable range tubes which permits changing the capacity of the flow meters to meet any flow requirement for differential pressures from 20" to 200" of water without disturbing the orifice plate or shutting down the line.

Brown Flow Meters give the ultimate in flow meter service. Designed for working pressures up to 2500 lbs. — they afford the highest accuracy combined with ruggedness. They are easy to install and clean; parts are simple and few; changes can be made in the field without affecting the calibration. Low maintenance is an outstanding feature.

Learn more about Brown Flow Meters — how they are different — why they are better — what they can do for you.

Write for Catalog No. 2003.



The Standard Brown Recorder With Integrator and Automatic Planimeter Can Be Furnished With These Meter Bodies

THE BROWN ELECTRIC METER BODY

Operates on the inductance bridge principle. Transmits flow changes instantaneously from the meter body to the recorder or indicator, electrically. There is no lost motion or friction and the accuracy is unaffected by voltage fluctuations.

Because of this flexibility, it is particularly adaptable for any flow requirement, especially where instruments are centralized for control purposes for either close or remote applications.

The standard meter body is designed for working pressures up to 2500 lbs. (tested at 5000 lbs.)

THE BROWN MECHANICAL METER BODY

Offered for applications where it is satisfactory to locate the instrument comparatively close to the point of flow measurement.

A simple mechanism accurately records flow changes just as they occur in the line. An extra large float supplies ample power to insure positive pen movement without friction or lost motion.

The standard meter body is designed for working pressures up to 2500 lbs. (tested at 5000 lbs.)

THE BROWN INSTRUMENT COMPANY, 4488 Wayne Avenue, Philadelphia, Pa.
Branches in 22 principal cities

BROWN FLOW METERS

Electrical and Mechanical

Oil Refining Equipment

Stills - Towers - Separators - Accumulators
Reboilers - Tanks - Columns - Flash Chambers

Bubble Tower, Reboiler Shell and Reflux Accumulator

50 Years of Experience in Fabricating Pressure Vessels

Welded
or
Riveted
Fabricated to Your Order

C-E

For more than fifty years our Chattanooga shop organization has been building pressure vessels and fabricated plate work. Out of this long experience has been developed knowledge, skill and equipment thoroughly adequate to handle your work of this class efficiently and promptly. C-E towers, drums and other fabricated oil refining equipment can be furnished welded or riveted, as desired. Chemical and physical laboratory for testing. 300,000-volt X-ray machine for examining weld structures. Modern furnace for stress relieving. Vessels built to any dimensions within shipping clearance limits. Equipment fabricated to order.

A171a

Combustion Engineering Company, Inc.

200 MADISON AVENUE NEW YORK

Canadian Associates, Combustion Engineering Corporation, Ltd., Montreal

MANUFACTURING DIVISIONS:

The Hedges-Walsh-Weidner Co., Chattanooga, Tenn.; Heine Boiler Co., St. Louis, Mo.; Coshocton Iron Co., Monongahela, Pa.; Raymond Brothers Impact Pulverizer Co., Chicago, Ill.

C-E PRODUCTS:

Pressure Vessels, Fabricated Plate Work, All types of Pulverized Fuel Systems, Mechanical Stokers, Boilers, Complete Steam Generating Units, Water Cooled Furnaces, Economizers and Air Heaters.

World's Largest Marketers of

PETROLEUM COKE

INQUIRIES AND OFFERS INVITED

GREAT LAKES FUEL CORPORATION

Distributors for

GREAT LAKES COAL & COKE CO.

500 Fifth Avenue New York, N. Y.

William M. Barret, Inc.

Consulting Geophysicists

Specializing in Magnetic Surveys

Contracts accepted for domestic and foreign projects, using the most improved instrumental and interpretative technique.

GIDDENS-LANE BUILDING -:- SHREVEPORT, LA.

wells were completed in the pool in the course of the succeeding months.

Reserve Oil & Gas Co.'s wildcat No. 1 Heinz, NE SW SE Section 8-18-10w, Rice County, got a hole full of water from Siliceous lime at 3,256-69 feet and plugged back to Kansas City lime at 3,195 feet. Acidizing brought out only a 15-bbl. production. The test was completed in August.

Gas in Morris County

Home Gas Co.'s No. 1 Kennedy C NW SE Section 7-16-7, Morris County, found a shallow gas pay at 650 feet in November and got a 500,000-foot gas well on a wildcat location.

Discoveries in Butler County

Bill Rex and others' No. 1 DeMoss, NE NE NW Section 8-28-7 in southeastern Butler County opened up a small production in sand at 2,665-95 feet in November. A shot resulted in a 25-bbl. pumper.

Another minor pool was opened in Butler County when Gaines and others' No. 1 McKinley, NE NE SE Section 19-29-4 started at 25 bbls. of oil per day after pay at 1,890-1,950 feet had been acidized. It came in in December.

L. C. Hay and others, wildcatting in Butler County, drilled No. 1 Bolen, SE SW SE Section 36-26-6 to Kansas City lime at 2,050-70 feet in July. The lime was acidized but a 12-bbl. pumper was the result.

Trego County

The Alma Petroleum Co. owned by the Watchorn interests found a new productive spot in Trego County in No. 1 Rhodes SW cor Section 14-11-23w. Siliceous lime was found at 3,978-4,222 feet and the hole filled with water. It was plugged back to 3,605 feet where it swabbed 30 bbls. of oil and 120 bbls. of water. The well was then drilled to 3,672-80 feet and put on the pump. It produced 135 bbls. in 24 hours with 200 bbls. of water and was completed.

In Rooks County

Ashby and others in September found production in their No. 1 Doughty, C SW SW Section 15-8-19w, Rooks County. Oswald lime was topped at 3,186 feet; pay lay at 3,215-25 feet. It was acidized and on a 24-hour pumping test the well made 364 bbls. and was completed.

Oil Found in Barber County

Barber County was added to the oil producing counties of the state in December when Lario Oil & Gas Co. completed No. 1 Whelan, C NW Section 32-31-11w. Chat was found at 4,355-4,435 feet. The well pumped 231 bbls. in 24 hours with 180 bbls. of water. Later it was tested and pumped 110 bbls. of oil and 90 bbls. of water and was completed. This is the most westerly oil production in the southern part of the state.

In Far Western Kansas

One of the most interesting discoveries of the year in Kansas because of its far western location was Atlantic Oil Producing Co.'s No. 1 Vaniman, C SE NE Section 15-20-33w in Scott County. Pay at 4,670-86 feet was acidized and the well started at 572 bbls. This was one of the December crop of new pools.

New Production in Elk County

Lassen and others' No. 1 Ferguson, CE NE NW Section 21-30-8, in Elk County, testing out a virgin spot, found a gas production of 1,760,000 cubic feet in sand at 2,056-58 feet. Pipe was set at 2,160 feet and at 2,169-72 feet the hole filled with oil which was its status at the close of the year.

Harvey County

In Harvey County Hartman and others' No. 1 Jones opened a pool in 19-25-1w. The test was drilled to 2,924 feet and plugged back to 2,912 feet and acidized. The well started at 118 bbls. of oil and 35 bbls. of water and was completed.

Imo Oil & Gas Co.'s No. 1 Sperling, SE NE NE Section 23-22-2w, late in December found a pay at 3,279-3,341 feet which swabbed 7½ bbls. per hour. It was deepened with no better results and the well was not completed at the close of the year.

Hollow and others' No. 1 Summerfelt, NW NE NW Section 8-22-1w, Harvey County found Hunton lime at 3,310-17 feet and was completed when it produced 247 bbls of oil. Acidizing did not help it.

These wells gave Harvey County three more producing areas, the importance of which the future will determine.

New Pay Horizon in Ellis

Out in Ellis County Hartman and others found a new producing horizon in an old well plugged back. It was No. 1 Polcyn, NE cor SE Section 12-13-16w. The new pay lay at 3,101-103 feet, which when acidized yielded a 100-bbl. initial production.

Discovery Well Abandoned

Vickers Petroleum Co. and Phillips Petroleum Co., late in March found production in a wildcat No. 1 Cravens, SW cor NE Section 15-25-11w, in Stafford County. The pay was penetrated at 3,920-28 feet and acidized and made 182 bbls. of oil and 263 bbls. of water. It was deepened but trouble beset the operation and a flood of water and mechanical difficulties brought about an abandonment. The same operators are now testing the structure with another drilling well. The two owning companies have a large block surrounding the well and the Phillips Petroleum Co. owns a 5,500-acre block adjoining.

Ellsworth County

Smith & Ash in their No. 1 Wilkins, SE cor Section 13-17-10w, in Ellsworth County found a Siliceous lime pool with pay at 3,260-80 feet. It was twice acidized before completion and the second treatment resulted in a production of 282 bbls. in 24 hours.

Twin Drilling Co.'s No. 1 Rolfe, SW NW SW Section 13-17-9w, in Ellsworth County, drilled into production in November. It had Siliceous lime at 3,200-05 feet and when completed in December the well pumped 526 bbls. in 24 hours.

KANSAS

Summary of Completions by Counties in 1934

	Comp.	Prod.	Dry	Gas
Barber	1	110	0	0
Barton	17	3,190	9	0
Butler	57	2,369	24	2
Chase	2	160	0	1
Chautauque	5	135	2	0
Clay	2	....	2	0
Coffey	1	....	1	0
Cowley	29	992	12	5
Ellsworth	18	5,952	5	2
Elk	22	793	3	2
Ellis	11	1,223	1	0
Edwards	1	....	1	0
Geary	1	....	1	0
Greenwood	80	2,584	33	0
Greer	1	....	1	0
Harper	1	....	1	0
Harvey	78	43,643	6	0
Kingman	15	4,705	3	0
McPherson	126	50,485	20	0
Marion	3	330	1	0
Morris	1	....	1	0
Nemaha	1	....	1	0
Phillips	1	....	1	0
Reno	71	73,565	9	2
Rice	121	64,602	28	4
Rooks	3	518	0	0
Rush	7	153	2	4
Russell	55	24,009	11	0
Sedgwick	63	15,167	20	0
Stafford	13	5,574	5	0
Sumner	7	100	6	0
Trego	2	126	1	0
Woodson	20	303	10	0
Total, 1934	835	300,789	222	22

Completions by Months

January	75	20,044	28	2
February	50	22,299	11	2
March	69	31,853	14	1
April	72	20,860	20	1
May	45	16,039	10	2
June	71	25,940	19	1
July	90	21,190	22	1
August	93	29,453	24	1
September	47	15,780	19	0
October	81	22,441	24	6
November	69	32,746	17	5
December	73	42,144	13	0
Total, 1934	835	300,789	221	22
Total, 1933	540	193,736	134	16
Difference	295	107,053	87	6
Total, 1932	572	193,139	188	21
Total, 1931	470	144,921	129	113
Total, 1930	1,036	228,296	423	168
Total, 1929	1,055	165,611	453	52
Total, 1928	1,157	101,043	455	115

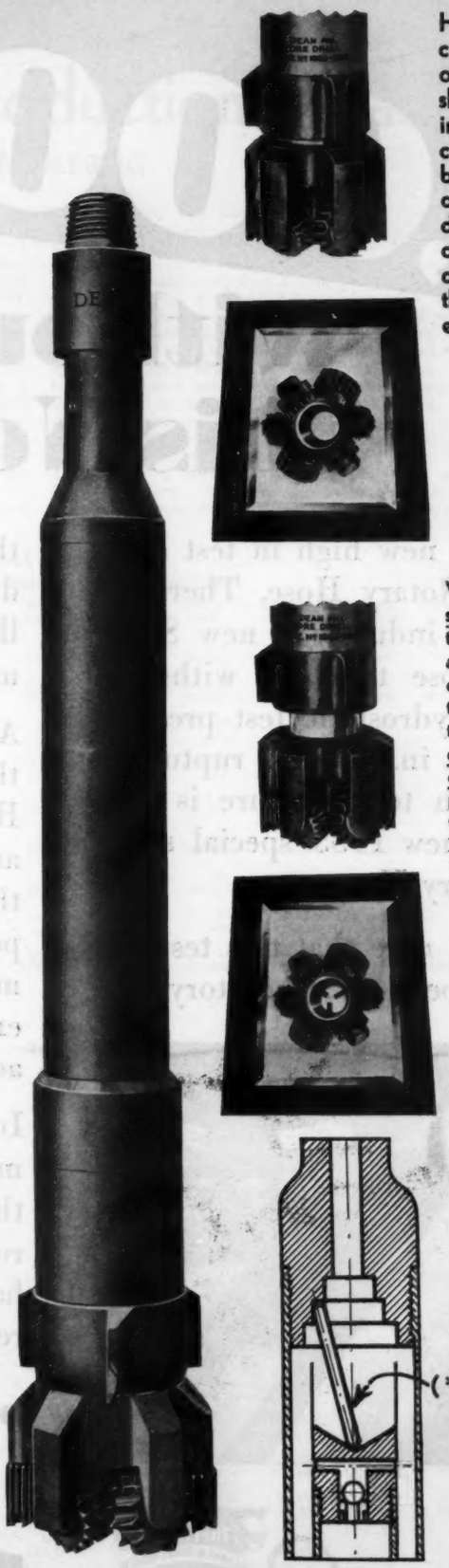
The DEAN Mechanical Core Severing Device

A positive opening and closing device that cuts the core off when the core chamber is filled, and supports the core when coming out of the hole. It will cut the hardest material and insures high recovery in any formation.

Dean Core Barrels are manufactured for drilling holes from 3 7/8" to 27" in diameter. Interchangeable rock or drag core heads available in all sizes. Write for illustrated Bulletin and other data.

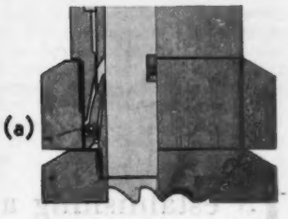
DEAN CORE BARREL MFG. SALES & SERVICE

Bakersfield, California, U. S. A.

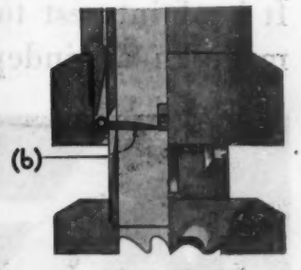


HOW IT WORKS

Here is a photograph of the core head and a reflected view of the bottom in a mirror, showing the clean bore when in drilling position with the catcher dogs retracted, and below, a mechanical drawing of the core head and catcher dogs in this position (a). As coring proceeds the catcher dogs remain retracted outside the core chamber, permitting easy entrance of the core.



When the core chamber is filled, a slight lift of the drill spline forces the catcher dogs against the core, and continued rotation of the core drill positively forces the dogs through the core, severing the toughest formations. After the core has been severed, pulling up on the core drill maintains the position of the catcher dogs under the core (b), supporting and holding it within the core chamber. The photograph and drawing here clearly illustrate this position.



The Core Is Locked In *

The Inner Barrel Locking Pin (an exclusive feature of the Dean Core Barrel) locks the spline and catcher in any one of four positions, supporting the core and preventing it from slipping or being dislodged when coming out of the hole.

DEAN CORE DRILLS

10,000 LBS.!!

without Bursting this New Hose . . .

IN establishing a new high in test burst pressures for Rotary Hose, Thermoid announces to the industry a new Super High Pressure hose that has withstood the tremendous hydrostatic test pressure of 10,000 lbs./sq. in. without rupturing. This extreme high test pressure is only available in the new 1935 special series of Thermoid Rotary Hose.

It is of interest to note that this test was made in an independent laboratory and that no actual burst pressure was obtained due to the fact that in recording 10,000 lbs., the full capacity of the testing equipment had been reached.

As with the standard Thermoid grades, the remarkable strength of this new Rotary Hose is very largely due to the precision and uniform application of the wire. And this precision winding has been made possible by a special Wire Winder—a machine designed and built by Thermoid engineers that operates with the same accuracy as a thread-cutting lathe.

In building this new hose, Thermoid has made several important improvements in the manufacturing process including super-refinements in wire-winding—all of which have contributed materially to its pressure-resisting qualities.

A view of the Thermoid Rotary Hose Wire Winder in operation. This machine applies wire with the precision accuracy of a thread-cutting lathe.

OIL WELL SUPPLY COMPANY

Branch Stores in all Oil Fields

DISTRIBUTORS OF

Thermoid

PRODUCTS FOR THE OIL INDUSTRY

Including Drilling and Pumping Transmission Belts — Rotary Hose — Air, Steam, Welding and Refinery Hose — Brake Lining and Packings.

Thermoid MECHANICAL RUBBER GOODS

ITS FROM OILWELL

New Pools and Extensions in West Texas Last Year Totaled 15; Production Steadily Off

By L. E. BREDBERG

Production in the West Texas Fields fell off 5,568,646 bbls. in 1934 compared with the 1933 total. Altogether 49,704,065 bbls. of oil was produced as against 55,272,711 bbls. in 1933 and 132,788,274 bbls. in 1929, the peak year in that big producing division.

Fifteen new productive spots were discovered in West Texas in 1934, but five of the discovery wells were incomplete at the close of the year, but sure to make new pool openers, or extensions to other areas. For the present they may be considered as the former although they may eventually connect with other pools, or unite separated pools.

Andrews and Ector County each received four discoveries. Three of the new wells in Andrews may be connected with the Deep Rock or Ford, or both areas, whereas the fourth discovery, Humble Oil & Refining Co.'s No. 1 Means, in Section 2, Block A-35, P.S.L. Survey, 15 miles northeast of the Deep Rock Pool, the first producing area of the county, was a real wildcat.

Deep Rock Pool

Humble Oil & Refining Co.'s No. 1 Walker, in Section 6, Block A-43, south of the Deep Rock Pool, Andrews County, was still incomplete at the close of the year. It will make a producer, either proving a new pool or connecting with the Deep Rock or Ford Pools, or both. It is four miles south of the Deep Rock producers and 2½ miles northeast of the Boner producers. Total depth was 4,538 feet, but it was plugged back to 4,490 feet.

The same company's first discovery in the county, No. 1 Kuykendall, located in Section 24, Block A-46, 2½ miles southwest of the Deep Rock producers, made only 16 barrels initial production. Whether or not it extends the Deep Rock area, or opens a separate pool has not been decided as no other test has been drilled between the two.

Honolulu Oil Co. and Llano Oil Co.'s No. 1 J. E. Parker, in Section 7, Block A-44, about 5 miles southeast of the Deep Rock area, was also incomplete, cleaning out and testing after shooting from 4,609-4,724 feet. It was drilled to 4,780 feet, but plugged back to 4,571 feet to shut off water before shooting. It will make a small well, possibly opening another producing area as two dry holes have been drilled between it and the Deep Rock producers.

There are now three oil wells in the Means Pool, Andrews County, with two other tests drilling by the discovery company. All wells may be considered as small, the second well drilled, to the east of the discovery, making only a small pumper. What is in store for this tight lime pool remains to be seen. It may expand to major proportions, but at the present it is not given a lot of attention by leasers. The Humble Oil &

West Texas

Daily Average and Monthly Production in 1934

Pool and County—	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
OGDEN, ANDREWS:													
Daily average	430	429	430	427	430	432	587	584	586	582	588	600	
Month	13,330	12,012	13,330	12,810	13,330	12,960	18,197	18,104	17,580	18,042	17,640	18,600	185,935
CHURCH-FIELDS AND McELROY, CRANE:													
Daily average	11,140	11,938	11,995	12,131	12,605	12,570	14,591	15,276	15,301	13,667	11,291	11,393	
Month	345,340	334,264	371,845	363,930	390,755	377,100	452,321	473,556	459,030	423,677	338,730	353,183	4,683,731
SAND HILLS, CRANE:													
Daily average	38	53	45	39	34	39	29	25	21	12	14	15	
Month	1,178	1,484	1,395	1,170	1,054	1,170	899	775	630	372	420	465	11,012
TODD, CROCKETT:													
Daily average	.....	15	15	12	14	13	12	20	20	18	20	14	
Month	.....	420	465	360	434	390	372	620	600	558	600	434	5,253
WORLD, CROCKETT:													
Daily average	604	597	720	750	747	742	746	753	751	747	744	812	
Month	18,724	16,716	22,320	22,500	23,157	22,260	23,126	23,343	22,530	23,157	22,320	25,172	265,325
COWDEN, ECTOR:													
Daily average	881	6,250	1,058	1,103	1,096	1,088	1,091	1,094	1,106	1,110	1,092	1,094	
Month	27,311	175,000	32,798	33,090	33,976	32,640	33,821	33,914	33,180	34,410	32,760	33,914	536,814
ADDIS, ECTOR:													
Daily average	556	556	672	698	703	707	703	694	696	681	677	638	
Month	17,236	15,568	20,832	20,940	21,793	21,210	21,793	21,514	20,880	21,111	20,310	19,778	242,965
BOREN, GARZA:													
Daily average	20	19	25	20	19	18	16	15	15	16	15	21	
Month	620	532	775	600	589	540	496	465	450	496	450	651	6,664
CHALK-ROBERTS, HOWARD-GLASSCOCK:													
Daily average	13,859	13,797	17,749	18,695	18,576	18,706	18,356	18,348	18,350	15,378	15,377	17,694	
Month	429,629	386,316	550,219	560,850	575,856	561,180	569,036	568,788	550,500	476,718	461,310	548,514	6,238,916
TANKERSLEY, IRION:													
Daily average	54	54	53	58	72	69	53	55	54	49	56	56	
Month	1,674	1,512	1,643	1,740	2,232	2,070	1,643	1,705	1,620	1,519	1,680	1,736	20,774
WHEAT, LOVING:													
Daily average	2,170	2,240	2,382	2,494	464	2,477	2,491	2,505	2,479	2,263	2,247	2,212	
Month	67,270	62,720	73,842	74,820	76,384	74,310	77,221	77,655	74,370	70,153	67,410	68,572	864,727
IATAN, MITCHELL:													
Daily average	1,342	1,409	1,169	1,016	1,447	1,436	1,447	1,462	1,439	1,365	1,351	1,029	
Month	41,602	39,452	36,239	30,480	44,857	43,080	44,857	45,322	43,170	42,005	40,530	31,899	483,493
COURTNEY, PECOS:													
Daily average	.....	15	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Month	.....	420	465	.....	.....	.....	.....	.....	.....	.....	.....	.....	885
MASTERSON, PECOS:													
Daily average	17	24	26	27	67	61	56	48	46	24	22	25	
Month	527	672	806	810	2,077	1,830	1,736	1,488	1,380	744	660	775	13,505
PECOS VALLEY, PECOS:													
Daily average	249	242	267	273	309	302	257	252	249	276	271	227	
Month	7,719	6,776	8,277	8,190	9,579	9,060	7,967	7,812	7,470	8,556	8,130	7,037	96,573
TAYLOR-LINK, PECOS:													
Daily average	610	660	1,176	1,250	1,242	1,240	1,251	1,247	1,253	1,244	1,247	1,176	
Month	18,910	18,480	36,456	37,500	38,502	37,200	38,781	38,657	37,590	38,564	37,410	36,456	414,506
YATES, PECOS:													
Daily average	42,497	42,475	42,488	43,487	47,563	46,912	42,880	47,774	47,761	38,402	38,275	42,682	
Month	1,316,849	1,189,300	1,317,128	1,304,610	1,474,453	1,407,360	1,329,280	1,480,994	1,432,830	1,190,462	1,161,250	1,323,142	15,917,658
McCAMEY, UPTON:													
Daily average	3,718	3,716	3,725	3,798	4,111	4,084	4,119	4,161	4,205	4,348	4,850	5,108	
Month	115,258	104,048	115,475	113,940	127,441	122,520	127,689	128,991	126,150	134,788	145,500	158,348	1,520,148
GRAND FALLS, WARD:													
Daily average	3,557	3,838	4,615	4,806	4,809	4,793	6,339	7,810	7,802	7,796	7,994	8,793	
Month	110,267	107,464	143,065	144,180	149,079	143,790	196,509	242,110	234,060	241,676	239,820	272,583	2,224,603
O'BRIEN, WARD:													
Daily average	2,187	2,456	3,299	3,618	3,713	3,714	4,363	5,222	5,204	5,207	5,359	5,299	
Month	67,797	68,768	102,269	108,540	115,103	111,420	135,253	161,882	156,120	161,417	160,770	164,269	1,513,608
HENDRICK, WINKLER:													
Daily average	18,189	18,198	18,192	18,108	17,940	18,007	17,993	18,021	18,014	18,167	18,169	17,356	
Month	563,859	509,544	563,952	543,240	556,140	540,210	557,783	558,651	540,420	563,177	545,070	538,036	6,580,082
NORTH WINKLER, WINKLER:													
Daily average	1,511	1,404	1,697	2,203	2,604	2,609	4,494	4,611	4,641	3,821	3,953	3,766	
Month	46,841	39,312	52,607	66,090	80,724	78,270	139,314	142,941	139,230	118,451	118,590	116,746	1,139,116
BIG LAKE, REAGAN:													
Daily average	14,525	13,606	13,900	13,847	13,548	12,947	11,208	10,718	11,772	11,818	12,263	12,064	
Month	450,275	380,968	430,900	415,410	419,988	388,410	347,448	332,258	353,160	366,358	367,890	373,984	4,627,049
PENN, ECTOR:													
Daily average	5,228	5,250	5,959	6,186	6,099	6,105	6,138	6,128	6,133	4,992	4,943	5,603	
Month	162,068	147,000	184,729	185,580	189,069	183,150	190,278	189,968	183,990	154,752	148,290	173,693	2,092,567
MEANS, ANDREWS:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	125	124	148	152	
Month	.....	.....	.....	.....	.....	.....	.....	.....	3,750	3,844	4,440	4,712	16,746
WADDELL, CRANE:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	9	15	7	15	
Month	.....	.....	.....	.....	.....	.....	.....	.....	270	465	210	465	1,410
Daily average	123,364	129,241	131,672	135,046	140,212	139,071	139,220	146,823	148,032	132,112	131,073	137,844	136,176
Total 1934	3,824,284	3,618,748	4,081,832	4,051,380	4,346,572	4,172,130	4,315,826	4,551,513	4,440,960	4,095,472	3,932,190	4,273,164	49,704,065
Total 1933	4,921,994	4,455,612	5,079,691	4,875,600	4,981,948	4,913,940	5,041,282	5,170,893	4,215,180	4,011,369	3,668,760	3,936,442	55,272,711
Total 1932	5,784,135	4,991,045	5,528,137	5,551,500	5,624,227	5,328,870	5,413,034	5,342,602	5,067,210	4,976,306	4,896,510	5,004,485	63,508,071
Total 1931	6,817,675	6,813,660	7,291,190	7,062,640	6,404,972	6,300,510	6,431,023	6,306,888	6,133,560	6,151,361	5,841,210	5,710,200	77,264,899
Total 1930	10,608,883	9,574,215	10,412,647	9,436,801	9,667,141	9,130,220	9,139,390	8,177,844	7,800,596	8,081,504	8,116,063	7,626,660	107,759,964
Total 1929	11,386,341	9,966,066	11,609,104	10,599,784	10,990,292	10,987,539	12,331,644	11,603,389	10,994,567	11,246,661	10,411,381	10,667,906	132,788,274
Total 1928	8,821,701	9,036,190	10,380,877	11,149,642	9,873,668	8,947,700	10,618,416	10,735,515	10,307,046	10,842,478	9,716,950	10,202,819	120,632,992
Total 1927	2,126,352	1,857,800	2,231,510	2,752,080	3,514,935	3,333,150	3,496,693	4,255,804	5,405,430	6,441,924	6,583,410	7,596,569	49,689,657

The *Syfo Clinograph* is a remarkable device. The records afforded by *Syfo* are direct and accurate—easily and inexpensively obtained without the use of dangerous acids—permanent records on paper that can be filed for reference.

SPERRY-SUN WELL SURVEYING CO.

1608 Walnut Street
Philadelphia, Pa.

TULSA, OKLAHOMA
402 Petroleum Building

HOUSTON, TEXAS
3118 Blodgett Avenue

LOS ANGELES, CALIF.
415 Petroleum Securities Bldg.

(U. S. Patent 1,962,634, and others pending)

SYFO CLINOGRAPH also SURWEL & H-K Surveying Instruments

Refining Co. owns a large block of acreage around them.

Discoveries in Ector

Ector County, adjacent to Andrews County, on the south, received three discoveries during the year. Two of them remain incomplete. One, C. J. (Red) Davidson and others' No. 1 Cummings (Cole), in Section 10, Block 45, Township 1n, T. & P. Survey, in the extreme northwest corner of the county, made only 20 bbls. initial production per day. It topped the pay at 4,275 feet and was bottomed at 4,509 feet. Another test is due to be drilled to the northwest of it in the near future.

Five and a half miles southeast of the Cummings discovery, Landreth Production Co. and Humble Oil & Refining Co., have a small discovery well in their No. 1 Clarence Scharbauer, in Section 20, Block 44, Township 1n, T. & P. Survey. It has been plugged back from 4,236 feet where it showed sulphur water to 4,186 feet and was shut down after heavy gas pressure caused trouble. Whether the Cummings and Scharbauer wells will be connected by production remains to be proven by other tests drilled on intervening acreage.

Landreth Production Co.'s No. 1 J. L. Johnson, in Section 47, Block 43, Township 1s, T. & P. Survey, approximately midway between the Cowden and Addis areas, Ector County, is appearing as a producer after logging one bailer of oil per hour at 4,110 feet, with an increase registered at 4,120 feet. However, it showed sulphur water at 4,180 feet, which halted drilling and called for plugging back with intent to shoot the saturated streak.

If this test makes a producer it may help to prove a connecting link between the two widely separated areas to the north and south, or may open a separate pool for the county. Drilling on intervening acreage will discover this during 1935.

Cowden and Addis Extended

The Cowden and Addis Pools were extended in various directions during the year, both pools covering a distance of about 6 miles in length. They are to see a large amount of drilling in 1935, which will probably define their limits. If the Johnson test, mentioned above, proves a producer, and other wells are drilled on acreage between the separated areas, a field 18 miles in length may be developed. The wells in the two areas are not large, but a field extending over such a distance will be classed as of major importance. It would be the first major field proven in the district in five years.

In Winkler County

Two important strikes were made in Winkler County during the latter part of the year, which caused the staking of several offset tests, and started the drilling of several wildcats east of the Hendrick Pool, three of which are on the trend between the two discoveries. These two wells, the Sayre Oil Co.'s No. 1 Howe, in Section 12, Block 26, P.S.L., east of the north end of the Hendrick Pool, made a 564 bbl. well from pay topped at 2,820-74 feet. The Skelly Oil Co.'s No. 1 Halley, in Section 25, Block B-11, P.S.L. Survey, east of the south end of the Hendrick Pool, and 14 miles south of the Howe discovery, was completed as a 382-bbl. well at total depth of 3,112 feet after topping the sandy lime pay at 3,105 feet.

These two tests are extremely important due to the fact that they opened a new pay horizon for the county, flanking the Hendrick Pool about 3 miles to the east, and may have opened a field of importance. The two strikes are the most important the county has seen since the Scarborough Pool, to the north of the Hendricks Pool, was opened.

New Oil in Pecos

Two discoveries were made in Pecos County during the year, one in the fore part of 1934, and the latter strike preparing to complete in December.

The first discovery, Tex-Mex Petroleum Corp.'s No. 1 Netterville, in Section 59, Block 8, H.&G.N. Survey, near the north line of Pecos County, topped a pay horizon at 2,221 feet and was completed as a 40-bbl. well at 2,291 feet. It picked up 2,500,000 feet of gas at 2,210 feet, but deeper drilling logged an oil pay. So far no other test has been drilled in the area, which is approximately 5 miles southwest of Grand Falls, and production in Ward County.

The Gulf Production Co. has opened a pool on the White and Baker Ranch, approximately 9 miles west of the Yates Pool, Pecos County. This well, No. 3 White and Baker, is located in Section 4, Block 207, T. C. Survey, on the south line of a solid block held by the company. It will cause the immediate drilling of about three offsets, one of which will be on acreage south of the block, held by others than the Gulf. This well topped a lime pay at 1,824 feet and was shut down at 1,826 feet to complete. While shut down made heads of from 1 to 3 bbls. per hour. It is to be placed on the pump. Deepening may prove a better well than it will make from the two feet of pay formation logged, and it may be drilled deeper.

The pool opened by the above well will have to run to the north and northeast, or to the southwest as a deep dry hole was previously drilled by the Humble Oil & Refining Co. 2½ miles to the southeast and Gulf has a dry hole to its credit about 2 miles to the northwest. The Humble test went to 9,811 feet in quest of Ordovician production.

Developing Yates Pool

During the year there has been considerable drilling in the Yates Pool, Pecos County, brought on by tests completed on the strip, in the heart of the field, that was declared a vacancy by Texas courts and acquired by Fred Turner of Midland. The Marathon Oil Co. purchased the strip from Turner, completed several wells started by him, and has drilled other wells in on the strip, causing companies owning offset acreage to drill on their lands. There was some drilling in the Taylor-Link Pool, about 19 miles west of the Yates Pool, in Pecos County. The field was extended a couple of miles to the south, and drilling is now in progress to the east of this pool. It has been a pool of only minor importance, being small in area and the wells also proving small.

Considerable acreage changed hands in Pecos County during the year, operators and companies taking both blocks and checkerboard acreage. Several wildcat tests are expected to be drilled in the county in 1935, probably one or two Ordovician tests. The Humble Oil & Refining Co. drilled an Ordovician test to 9,811 feet in Section 44, Block Z, T. C. Railway Survey, about 7 miles west of the Yates Pool. It proved dry.

Texas' Deepest Well

The deepest test ever drilled in Texas is now shut down at a total depth of 10,978 feet in the McElroy Pool, Upton County. This well, Gulf Production Co.'s No. 103 McElroy, in Section 197, Block F, has had a couple of good showings of high gravity oil, but when test was made the saturated streaks failed to give much encouragement. Casing and tubing pressure are on a gradual increase since the well was shut in, the casing pressure registering more than 1,265 pounds and tubing pressure 115 pounds at the close of the year.

Howard County Extension

The Dodge-Denman Pool, in eastern Howard County, was an active area, having been extended to the west and northwest during the year, with operators holding acreage in the area, giving more consideration to it. Drilling is to continue in this area until the limits have been proven.

Ward Very Active

Ward County has been the most active in the district during the year, individuals and companies drilling in the Grand Falls area in the southern part of the county and more wells having been completed in the O'Brien and Hutchings area in the northern part. The former area was extended several times during the year, one extension, by the Eppenauer Drilling Co., on the Combs Ranch, making a three-quarter mile extension to the southwest, proving the largest extension of the year.

In Scurry County

Two miles south of the small Ira Pool in Scurry County, Paul C. Texas and others brought in a 30-bbl. pumper in September. This well, drilled in Section 100, Block 9, H.&T.C. Survey, topped the shallow pay at 1,700 feet and was completed at a total depth of 1,734 feet.

J. Byram and others, of Abilene, brought in a discovery in Jones County during the year. The test started more drilling in its vicinity, and was an incentive for more wildcatting in the northern part of the county. This well, No. 1 Jones, in Section 5, Block 15, T.&P. Survey, made 100 bbls. of 38.8 gravity oil at total depth of 1,935 feet, only 5 feet in the pay sand. The pool is expected to be a small one, containing small wells.

McMillan Pool Revives

The McMillan Pool, Runnels County, which has been producing for six years, but in which there had been little development, became an active area during the year when an extension well came in for a better initial than any previously drilled. This led to the staking of more locations which in turn brought about more extension producers, until at the present time there are nearly a score of oil wells in the pool. The gravity of the oil is high, better than 42 degrees, and a refinery in Fort Worth is paying a premium for it, which also had its effect in causing more drilling in the pool. The pool has been defined on three sides, and is not expected to be proven much larger, but during 1935 there will be still more drilling on inside locations and in the direction not yet limited by dry holes.

Six Ordovician Tests

There are six Ordovician tests drilling in the Permian Basin at the present time, with two more scheduled to start drilling soon. Three of these are in Schleicher County, one is in Glasscock, one in western Upton, and one in Reagan. Another is preparing to start about 3 miles southwest of Ozona in Crockett County, and material is being moved in for one in Western Crane County.

WEST TEXAS

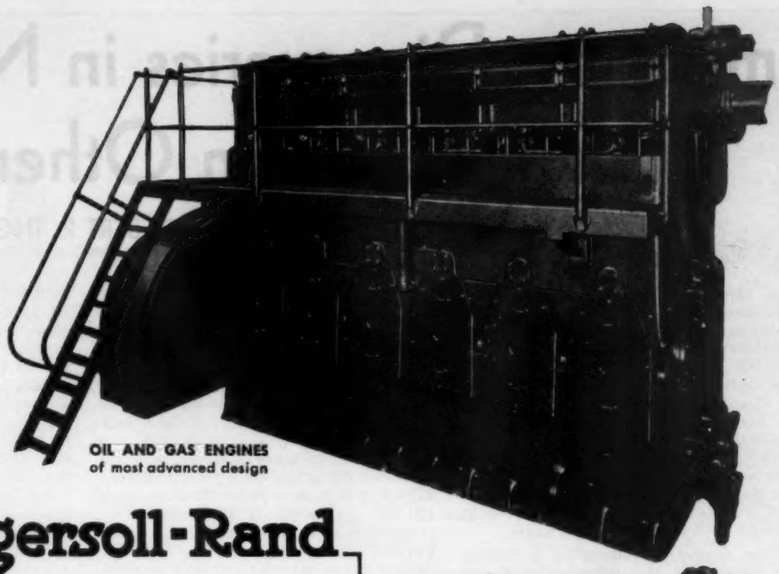
Summary of Completions by Counties

County—	Comp.	Prod.	Dry	Gas
Andrews	6	1,083	2	0
Borden	2	0	1	0
Crane	6	1,294	0	0
Crockett	2	0	2	0
Ector	56	21,221	7	0
El Paso	1	0	1	0
Fisher	24	11,254	8	0
Gaines	1	0	1	0
Glasscock	46	20,790	7	0
Howard	56	118,470	4	0
Hudspeth	2	0	2	0
Irion	7	55	5	0
Jones	32	2,290	17	0
Loving	16	1,345	4	0
Menard	1	0	1	0
Pecos	62	877,259	10	0
Reagan	8	5,348	3	0
Reeves	3	0	3	0
Runnels	20	4,274	7	0
Scurry	2	30	1	0
Sterling	2	0	2	0
Taylor	3	50	2	0
Terrel	1	0	1	0
Tom Green	5	0	5	0
Upton	13	5,618	1	0
Val Verde	1	0	1	0
Ward	130	43,252	13	2
Winkler	49	8,915	3	3
Total, 1934	562	1,022,448	114	5

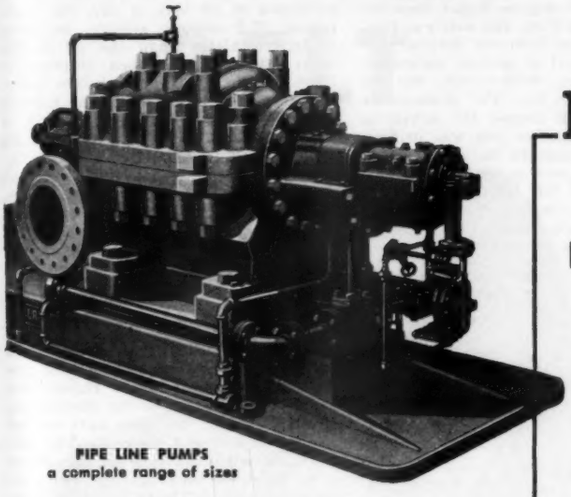
Summary of Operations by Months

Month—	Comp.	Prod.	Dry	Gas
January	41	129,485	5	1
February	34	77,971	7	0
March	29	164,671	9	0
April	25	58,115	3	1
May	37	112,763	6	1
June	40	230,649	0	0
July	37	109,159	7	1
August	60	15,039	13	0
September	61	14,553	14	0
October	83	25,901	21	0
November	51	42,973	11	1
December	64	20,169	15	0
Total, 1934	562	1,022,448	114	5
Total, 1933	298	67,091	53	3
Difference	264	955,357	58	2

HOT OIL PUMPS
high pressure type shown



OIL AND GAS ENGINES
of most advanced design



PIPE LINE PUMPS
a complete range of sizes

Ingersoll-Rand

EQUIPMENT FOR THE OIL INDUSTRY

Advanced designs that assure the purchaser of machines that are not only good for today but for years to come.

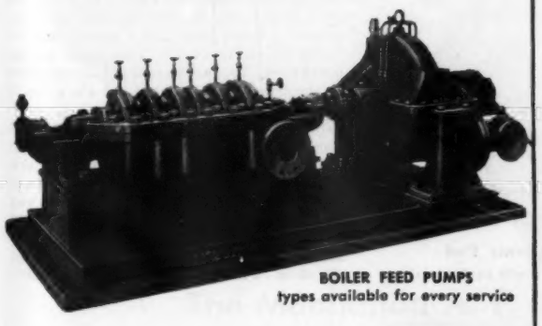
Other I-R equipment not shown here includes: Water Vapor Refrigeration Units, Ammonia Compressors, Steam Jet Ejectors, Condensers, Hoists, Pneumatic Tools and Rock Drills.

INGERSOLL-RAND COMPANY
11 Broadway, New York, N. Y.

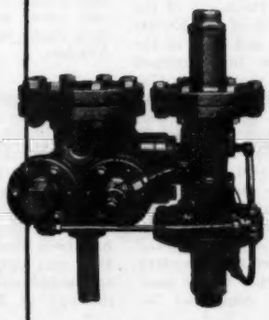
Branches or distributors in principal cities the world over

Birmingham	Dallas	Los Angeles	Salt Lake City
Boston	Denver	Newark	San Francisco
Buffalo	Detroit	New Orleans	Scranton
Butte	Duluth	New York	Seattle
Chicago	Tulsa	Philadelphia	St. Louis
Cleveland	El Paso	Picher	Washington
	Knoxville	Pittsburgh	88-12

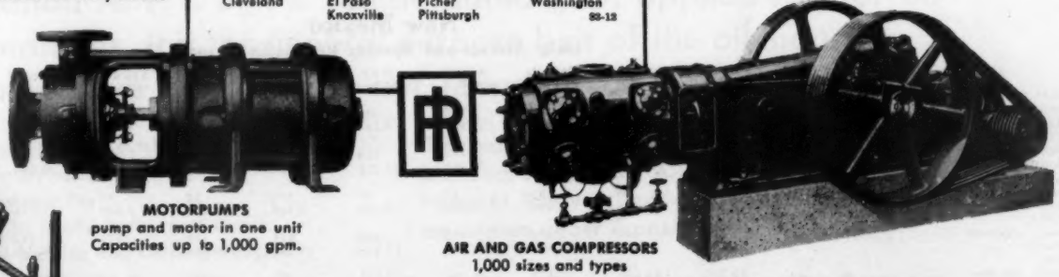
COMPRESSORS
for service stations



BOILER FEED PUMPS
types available for every service

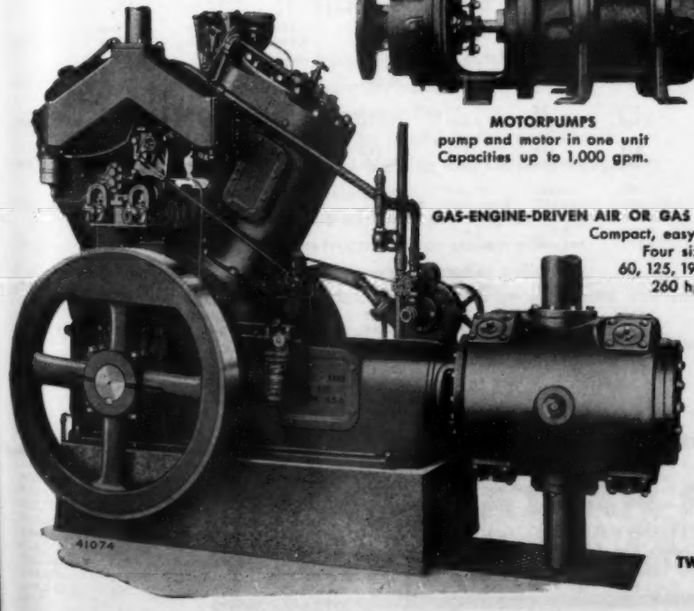


MAXIFLO
an automatic air or gas control device for intermittent pumping of wells

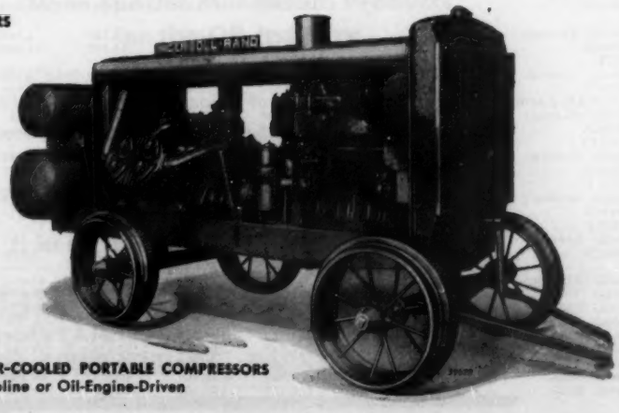


MOTORPUMPS
pump and motor in one unit
Capacities up to 1,000 gpm.

AIR AND GAS COMPRESSORS
1,000 sizes and types



GAS-ENGINE-DRIVEN AIR OR GAS COMPRESSORS
Compact, easy to install
Four sizes
60, 125, 190 and 260 hp.



TWO-STAGE AIR-COOLED PORTABLE COMPRESSORS
Gasoline or Oil-Engine-Driven

Important Discoveries in New Mexico in 1934; Minor Results in Other Mountain States

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

A new oil pool of major importance was discovered in 1934 in the Cooper area, in Lea County, New Mexico, in the General Crude Oil Co.'s No. 1 Meyers, NE NE SE Section 22-24-36. This well was drilled to 3,438 feet in June, 1929, by Cranfill & Reynolds, predecessor of the present owner, and completed as a 50,000,000-foot gas well. Early in April, 1934, operations were resumed and the well was deepened 74 feet to 3,512 feet and completed as an oil well making 225 bbls. on the last one-hour gauge, or at the rate of 5,400 bbls. in 24 hours.

This discovery resulted in a drilling campaign which was restricted as far as possible to required offsets. Twenty-four wells were drilled to completion by the end of the year, of which 23 were oil wells and one was a gas well. The estimated initial production of the oil wells was 88,042 bbls. first 24 hours. This estimate is based on short gauges, some of which were made through the tubing and others through three-fourths inch chokes on the tubing. Most of the wells had been acidized. At the close of 1934 there were 12 operations under way in the pool, including drilling wells and rigs, and four locations. The pool is under proration and production during the last half of December was held down to 149 bbls. per well per day.

The pool is located to the north of the Jal Field and to the south of the Eunice Pool and 25 miles south and west of the Hobbs Pool. The area so far developed and proven extends from the Empire Gas & Fuel Co.'s No. 1 Everett, C NE SW Section 35-24-36, 2 miles south and half a mile east of the discovery, to the Stanolind Oil & Gas Co.'s No. 2-A Meyers, C NE NE Section 22-24-36, one-half a mile to the north of the discovery. The developed area is approximately 1 mile wide. The limits have not been definitely established in any direction, but drilling wells indicate that the present boundary will not extend much farther to the east.

Several wells recently completed between the discovery in the Cooper Pool and the producers in the Jal Pool indicate that these two areas are one continuous pool.

While there is no marked variation shown in the depth of the wells so far drilled to production, there is a wide spread in the quantity of initial production. The smallest well made 295 bbls. first day. The other extremes are the Stanolind Oil & Gas Co.'s No. 1-A Meyers, SE cor. NE Section 22-24-36, which made 420 bbls. an hour on a 30-minute test, or at the rate of 10,000 bbls. a day, and the Texas Co.'s No. 1 Everett, C SE NW Section 35-24-36, which flowed 38 bbls. in 10 minutes and was estimated at 10,000 bbls. a day. The well with the smallest initial production is a north offset to this well.

The General Crude Oil Co.'s No. 1 Meyers, the discovery well, NE cor. SE Section 22-24-36, topped the salt at 1,312 feet and found the base at 2,910 feet. The top of the lime was at 2,960 feet and the gas at 3,305-18, 3,368-80 and 3,420-38 feet, the latter being the total depth of the old well. After deepening began it was given a drill stem test at 3,439-60 feet and was estimated at 50,000,000 feet of gas and 2,000 to 3,000 bbls. of oil. The major pay was found at 3,498-3,512 feet and the 7-inch was set at 3,498 feet. The last gauge, in which it made 225 bbls. in one hour, was through a three-fourths inch choke on the 2½-inch tubing at 3,510 feet.

North Lea

Another discovery which opened a new Lea County Pool was made in the Texas Co.'s No. 1 J. S. Lea, SW SW NW Section 14-20-34, 3 miles north of the nearest producer in the Lea Field. It encountered the pay early in April, but due to mechanical difficulties, was not finally completed until the following August. It has been designated as the North Lea Pool and only the one well was drilled to completion during the year. It topped the pay at 3,555 feet and was drilled to 3,688 feet in lime, at which depth it swabbed 118 bbls. of oil and 25 bbls. of water in 24 hours. It was plugged back to 3,600 feet and put on the pump, making 88 bbls. a day on the average. The bottom of the pay was at 3,580 feet. The oil tested 32 degrees gravity on the A.P.I. scale, or about 5 degrees higher than the crude in the Lea Pool. The well was then shut in on orders from the Secretary of the Interior until a pooling agreement could be reached. Subsequently the rig was destroyed by fire. The elevation is 3,665 feet and it topped the anhydrite at 1,562 feet. Another test was drilling two-thirds of a mile to the southwest at the end of the year in the Texas Co.'s No. 1 Elliott, C NE NE Section 22-20-34. It appears to be deeper than the discovery and points to the latter being close to the edge of the structure.

NEW MEXICO
Summary of Wells Completed in 1934

County—	Comp.	Prod.	Dry	Gas
Chaves	2	0	2	0
De Baca	1	0	1	0
Dona Ana	1	0	1	0
Eddy	32	936	12	8
Guadalupe	1	0	1	0
Hidalgo	1	0	1	0
Lea	86	257,189	0	3
McKinley	1	5	0	0
San Juan	17	494	5	1
Torrance	2	0	1	1
Total 1934	144	258,624	24	13
Total 1933	61	148,936	15	1
Difference	83	109,688	9	12

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	7	5,169	2	2
February	5	10	1	3
March	6	3,180	0	2
April	6	13,328	1	1
May	10	14,134	0	1
June	10	7,648	3	0
July	13	36,101	4	0
August	11	21,827	2	0
September	21	67,215	0	1
October	18	26,790	3	0
November	16	25,041	4	3
December	21	38,181	4	0
Total	144	258,624	24	13

New Eddy County Pool

One discovery was made in Eddy County, 4 miles to the northwest of the Getty Pool in the Getty Oil Co.'s No. 2 Cook and Ironsides, C SW NW Section 8-20-29. It was drilled to 390 feet in red beds and temporarily abandoned in 1929. Operations were resumed last June and at 1,050-65 feet it had a show of oil estimated at 15 bbls. a day, the crude testing 27.1 degrees gravity, or about 8 degrees higher than the oil in the Getty Field. It was then deepened to 1,598 feet in lime and ran into water. It was shot with 60 quarts at 1,105-20 feet and swabbed 190 bbls. of fluid, of which 22 bbls. was oil. It was then plugged back to 1,160 feet and the 8¼-inch was underreamed to 1,095 feet and the well completed for an initial production of 26 bbls. a day. Getty controls a large block of surrounding acreage, but no other test has been drilled. It appears to be on structure and separated from the Getty Pool by a syncline.

Eunice Pool

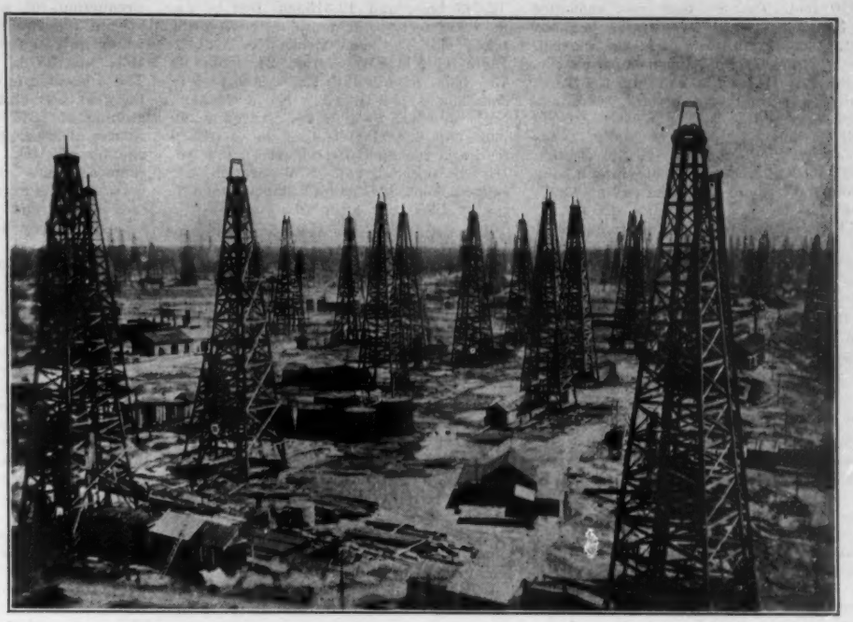
Twenty-one wells, of which one was a gas well and the others were oil producers, were drilled in the Eunice area in 1934. These extended the proven area on all sides, but the limits have not yet been defined in any direction. The estimated initial production of the 20 oil wells, based on short gauges and after acidization, is 31,200 bbls., or an average of 1,560 bbls. per well. The developed area at the end of the year was approximately 4 miles long and 1 mile wide, the trend being from the northeast to the southwest. The area outlined is exclusive of the gas well, the Ohio Oil Co.'s No. 2 State-McDonald, C NW SW Section 14-22-36, 5 miles to the southeast. This well was drilled to 4,350 feet, at which depth it flowed 180 bbls. of water in 19 hours. It was plugged back several times without showing any improvement, and finally was plugged back to 3,850 feet and completed as a gas well at 3,150-3,850 feet, gauging 27,000,000 feet in 24 hours. It had an oil show with sulphur water at 4,266-

New Mexico

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
HOGBACK:													
Daily average	226	219	213	210	217	220	211	210	207	213	196	206	
Month	7,019	6,129	6,611	6,312	6,731	6,611	6,539	6,517	6,214	6,606	5,872	6,390	77,552
RATTLESNAKE:													
Daily average	783	770	721	716	718	721	732	720	690	717	745	694	
Month	24,269	21,560	22,360	21,482	22,256	21,626	22,692	22,322	20,693	22,218	22,357	21,519	265,354
TABLE MESA:													
Daily average	91	90	89	90	97	101	92	97	91	98	92	91	
Month	2,810	2,526	2,749	2,694	3,010	3,030	2,847	3,007	2,730	3,051	2,769	2,812	34,035
ARTESIA:													
Daily average	603	607	609	603	626	641	639	572	610	611	547	630	
Month	18,699	17,003	18,866	18,087	19,398	19,227	19,814	17,721	18,289	18,952	16,400	19,530	221,986
HOBBS:													
Daily average	33,302	32,275	32,179	36,304	36,016	36,307	35,488	36,231	34,512	32,176	32,997	31,076	
Month	1,032,387	903,692	997,561	1,089,120	1,116,491	1,089,224	1,100,137	1,123,152	1,035,366	997,460	989,902	963,361	12,437,852
JAL:													
Daily average	2,018	2,020	2,199	2,548	2,556	2,626	3,292	3,057	3,071	3,330	3,090	3,246	
Month	62,551	56,562	68,172	76,432	79,239	78,777	102,076	94,771	92,127	103,222	92,688	100,626	1,007,242
EUNICE:													
Daily average	1,083	1,113	1,912	2,036	1,994	1,948	2,627	3,160	3,089	3,388	3,510	3,791	
Month	33,573	31,161	59,266	61,089	61,814	58,446	81,438	97,959	92,670	105,028	105,311	117,521	905,276
MALJAMAR-JACKSON:													
Daily average	1,236	1,229	1,266	1,287	1,302	1,650	1,670	1,714	1,692	1,638	1,869	2,360	
Month	38,311	34,414	39,253	38,600	40,362	49,508	51,762	53,140	50,766	50,769	56,074	73,157	576,116
LEA CITY:													
Daily average	1,868	1,765	1,797	1,702	1,714	1,704	1,695	2,374	2,002	1,821	1,753	1,519	
Month	57,914	49,412	55,707	51,052	53,134	51,112	52,545	73,588	60,056	56,463	52,586	47,090	660,659
T. AND P.:													
Daily average	127	100	107	79	80	.....	224	48	108	103	100	.....	
Month	3,926	2,809	3,312	2,376	2,469	.....	6,939	1,486	3,239	3,199	3,000	.....	32,755
COOPER:													
Daily average	142	141	127	115	100	82	170	715	1,535	1,589	750	1,726	
Month	4,408	3,940	3,937	3,450	3,093	2,482	5,266	22,165	46,052	49,263	22,488	53,504	220,048
Daily average	41,480	40,329	41,219	45,690	45,421	46,001	46,840	48,898	47,607	45,685	45,643	45,339	45,028
Total 1934	1,285,867	1,129,208	1,277,794	1,370,695	1,407,997	1,380,044	1,452,055	1,515,828	1,428,202	1,416,231	1,369,447	1,405,510	16,438,878
Total 1933	995,813	1,020,824	1,148,674	1,065,030	1,092,719	1,063,290	1,155,194	1,189,889	1,227,240	1,299,334	1,253,640	1,289,631	13,801,278
Total 1932	1,152,766	1,056,702	1,126,354	1,096,320	1,109,273	1,069,020	1,093,835	971,075	934,800	975,043	925,410	834,086	12,344,684
Total 1931	1,233,204	1,123,220	1,252,989	1,199,730	1,285,359	1,328,070	1,308,503	1,305,534	1,276,290	1,330,613	1,295,730	1,324,041	15,360,382
Total 1930	315,549	288,532	337,528	374,880	557,589	686,040	1,368,061	1,311,052	1,344,510	1,343,509	1,212,510	1,286,655	10,377,415
Total 1929	87,658	83,334	89,621	98,646	96,751	83,762	125,116	145,421	177,840	245,675	279,090	295,293	1,803,261
Total 1928	74,865	59,931	69,347	68,160	73,470	58,860	69,471	89,156	94,830	97,309	98,100	130,342	973,881
Total 1927	136,679	138,460	148,738	142,140	112,530	102,120	89,200	76,911	73,500	58,652	71,910	63,364	1,214,284

MANHATTAN A. P. I. BELT



Compensated
PAT. APPLIED FOR

LOW TENSION BELT FOR OIL WELL PUMPING

The Manhattan A. P. I. Belt is compensated (pat. applied for) for oil field conditions. It is the general purpose belt of the oil industry. It has twelve advantages not found in any other belt.

1. Freedom from rupture in outside ply
2. Freedom from ply separation
3. Far longer fastener life
4. Less affected by atmospheric conditions
5. Freedom from bearing and shafting troubles
6. Higher efficiency
7. Double the overload capacity or margin of safety
8. Freedom from wear on pulley side
9. Can be operated on smaller pulleys
10. For heavy loads, plies may be increased with same pulleys
11. The only rubber belt that can be dressed without destructive effect
12. Material reduction in belting costs

This belting can also be furnished endless. It is branded Manhattan A. P. I. Compensated at frequent intervals, and bears the official A. P. I. monogram under license.

Other Special Manhattan Products for the Oil Industry

Rotary Hose Rubber Covered Pistons Piston Liner Sleeves
Whipcord Endless Pumping Belts Stuffing Box Rings
Steam, Water, Air Hose Brake Lining for Draw Works, etc.
Paranite G. O. P. Tank Truck Hose
Slush Pump Intake Hose Moulded Rubber Products

Distributed by The National Supply Companies . . . in all important oil producing centers

THE MANHATTAN RUBBER MFG. DIVISION

OF RAYBESTOS-MANHATTAN, INC.

EXECUTIVE OFFICES and FACTORIES, 1122 TOWNSEND ST., PASSAIC, N. J.

4,350 feet. The 8⅝-inch was cemented at 3,096 feet and the elevation is 3,532 feet. The only other well in the immediate territory is the same company's No. 1 State-McDonald, a mile to the west, which was completed several years ago as a small oil well. The most southerly well in the developed area is the Texas Co.'s No. 2 Rector, C SE SE Section 30-21-36, which made 56 bbls. in one hour through the tubing from the pay at 3,897-3,941 feet.

This well and its north offset extended the proven area 1½ miles to the south. The year's drilling extended the proven area about half a mile to the east and the same distance to the west in a series of line wells. The field is under proration and production at the end of the year was limited to 149 bbls. per well per day.

Hobbs Pool

Eighteen wells were completed in the Hobbs Pool during the year. Most of these were on the edges of the developed area on the northwestern and southeastern sides of the field and resulted in some extensions of the proven area. Three were located around the C Section 24-18-37, and one was in the SE cor. SW, same section. These extended the pool half a mile to the west. The results in these wells indicated that there is additional territory which probably will be productive to the west and north. Noble Brothers' No. 1 Shell-State, SE cor. SW Section 24, had an initial production of 12,643 bbls. and 12,315,000 feet of gas at 4,188 feet, total depth, after treating with acid. The same firm's No. 2 Shell-State, C NE SW Section 24, made 9,736 bbls. of oil and 12,585,000 feet of gas. The Gypsy Oil Co.'s No. 3 Graham, SW cor. NE Section 24, gauged 3,240 bbls. and 6,000,000 feet of gas at 4,216 feet, and the Shell Petroleum Corp.'s No. 1-D State, SE cor. NW Section 24, gauged 3,952 bbls. and 3,300,000 feet of gas at 4,260 feet after treating.

The drilling on the eastern and southeastern sides carried the field more than a mile to the east to the Skelly Oil Co.'s No. 2 Turner, C NE NW Section 34-18-38, which had an initial production of 3,953 bbls. of oil and 8,156,000 feet of gas first 24 hours after being treated twice. Four other producers were completed between this well and the area developed up to the first of 1934. The other completions marked minor extensions mostly of one location.

The potential of the pool on January 1, 1934, was 1,278,894 bbls. daily and on January 1, 1935, was 2,168,278 bbls. This was an increase of 890,384 bbls. daily and included larger potentials assigned following acidization and decreases due to declined potentials as established by bottom hole pressure tests. At the beginning of the year there were 183 units of 40 acres each on production, of which two were given special allowances on account of water. At the end of the year there were 202 units of 40 acres each on production, of which one was given a special allowance. The units classed as water units numbered 18 on January 1, 1934, and 35 on the same date in 1935. The allowable outlet at the beginning of the year was 33,178 bbls. and at the beginning of 1935 was 33,476 bbls., these figures about representing the daily average for the year. Acidizing of wells became a general field practice during the year and was responsible for a large increase in potentials, which was offset to some extent by declined potentials.

Jal Pool

Nineteen wells were drilled to completion in the Jal Pool in 1934, of which 18 were oil wells and one was a gas well. Most of these wells, with the exception of several in the northern part of the field, were drilled at widely scattered locations. Five wells were drilled on as many different sections, three of which were the first wells drilled in the sections and two were the second wells drilled. All were in territory expected to be productive. Initial production of the 18 oil wells, estimated on the basis of short gauges, and after treatment of some of them with acid, was 24,358 bbls., an average of 1,280 bbls. per well. The best well was the Southern Petroleum Exploration Co.'s No. 1 Ascarate, C NE NW Section 24-25-36, rated at 4,464 bbls. initial at 3,312 feet, total depth, and the smallest well was the Texas Co.'s No. 2 Moberly, C NW SE Section 8-26-37, which made 41 bbls. natural through the casing first 24 hours.

North Artesia

Late in 1933 an extension of the North Artesia Pool, 1½ miles to the north and east, took place in Van P. Welch and others' No. 1 State, NW NE SE Section 22-17-28, which flowed 75 bbls. initial at 2,027 feet after being shot at 1,934-39 feet with 60 quarts. During 1934 four wells were drilled to the northwest of this producer extending the proven area about 2 miles. The farthest to the north and west was Tignor, Etz & Keyes' No. 1-A Keyes, C SE SW Section 10-17-28, which was completed at 1,973 feet in lime, in October for 40 bbls. natural after being shot with 120 quarts.

Colorado

Drilling operations were at a low ebb in Colorado during 1934 and the number of completions was the smallest in several years. Two discoveries were made, one of which officially places the Hiawatha gas field in northern Moffat County as an oil pool also, and the other, located in Archuleta County, gives favorable promise of developing into a commercial producer, but at the end of the year had not been drilled into the sand and tested.

The Hiawatha gas field was discovered in 1926 in the Somir Petroleum Co.'s No.

Colorado

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
CRAIG:													
Daily average	537	471	457	417	542	511	380	433	489	315	453	424	
Month	16,641	13,197	14,152	12,517	16,789	15,339	11,789	13,582	14,662	9,774	13,590	13,150	165,182
FORT COLLINS:													
Daily average	154	105	105	85	89	90	102	134	18	99	106	98	
Month	4,764	2,928	3,263	2,561	2,770	2,694	3,154	4,160	543	3,064	3,186	3,030	36,117
FLORENCE:													
Daily average	247	251	257	224	240	249	226	208	218	209	223	278	
Month	7,669	7,041	7,956	6,711	7,429	7,462	7,314	6,460	6,550	6,470	6,699	8,610	86,371
ILES:													
Daily average	1,062	1,152	889	916	1,319	1,136	1,938	1,973	1,886	1,647	1,750	1,704	
Month	32,913	32,269	27,563	27,477	40,894	34,080	60,071	61,152	56,587	51,068	52,491	52,816	529,381
ORCHARD:													
Daily average	121	121	113	110	101	102	97	96	105	98	87	81	
Month	3,765	3,394	3,511	3,314	3,135	3,069	3,008	2,981	3,141	3,031	2,620	2,517	37,486
RANGELY:													
Daily average	85	86	88	94	91	90	88	92	90	88	90	89	
Month	2,629	2,393	2,734	2,818	2,811	2,710	2,719	2,860	2,689	2,714	2,693	2,762	32,537
TOW CREEK:													
Daily average	196	164	244	227	221	213	172	152	202	194	168	166	
Month	6,061	4,591	7,563	6,810	6,840	6,381	5,339	4,723	6,074	6,040	5,032	5,142	70,596
WELLINGTON:													
Daily average	439	429	440	431	440	432	403	453	351	357	364	354	
Month	13,623	12,018	13,646	12,924	13,640	12,954	12,500	14,053	10,532	11,061	10,917	10,971	148,839
WALDEN:													
Daily average	.....	.....	.....	.....	.....	.....	26	128	211	127	161	129	
Month	.....	.....	.....	.....	.....	.....	806	3,965	6,326	3,932	4,830	4,006	23,865
Daily average	2,841	2,780	2,593	2,504	3,043	2,823	3,442	3,675	3,570	3,134	3,402	3,323	3,096
Total 1934	88,065	77,826	80,358	75,132	94,308	84,659	106,700	113,937	107,104	97,154	102,058	103,004	1,130,375
Total 1933	83,421	69,356	81,437	66,270	80,848	73,170	78,515	75,040	70,590	74,415	74,910	84,909	914,881
Total 1932	107,384	104,052	111,817	101,580	100,440	89,520	90,179	75,951	86,580	83,793	83,200	80,538	1,114,064
Total 1931	121,471	119,336	122,295	122,910	129,270	132,960	127,286	106,578	127,320	138,043	115,950	119,443	1,492,862
Total 1930	151,187	146,860	144,274	133,590	137,175	136,950	139,252	131,688	125,430	131,192	122,010	124,031	1,623,639
Total 1929	215,016	182,280	213,125	197,130	228,727	224,220	213,838	212,009	183,480	167,958	165,830	164,984	2,361,595
Total 1928	234,635	232,625	259,563	202,610	204,283	218,940	258,805	234,608	208,830	262,136	220,350	211,699	2,744,184
Total 1927	215,016	223,356	242,947	274,620	239,165	217,200	232,926	226,021	204,150	220,596	220,050	305,623	2,722,670

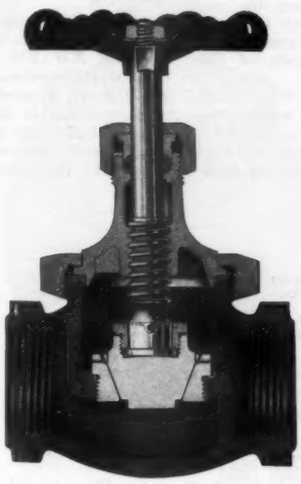
Montana

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
BANNATYNE:													
Daily average	.....	.....	.....	25	29	.....	32	10	8	10	.....	.....	
Month	.....	.....	.....	757	900	.....	1,007	319	239	319	.....	.....	3,541
BORDER:													
Daily average	296	284	286	305	328	317	239	245	207	277	258	277	
Month	9,195	7,928	8,852	9,147	10,145	9,518	7,409	7,704	6,216	8,585	7,735	8,590	101,004
CAT CREEK:													
Daily average	655	651	650	648	601	647	620	616	590	646	613	652	
Month	20,293	18,223	20,155	19,447	18,631	19,410	19,223	19,084	17,689	20,040	18,394	20,215	230,522
CUT BANK:													
Daily average	1,537	1,712	1,807	2,026	2,499	2,216	3,376	3,988	4,199	4,708	4,710	4,718	
Month	47,641	47,971	56,006	60,776	77,473	66,472	104,648	123,633	125,982	145,951	141,300	146,252	1,144,105
DRY CREEK:													
Daily average	63	.....	.....	.....	.....	.....	56	44	25	25	5	.....	
Month	1,955	.....	.....	.....	.....	.....	1,734	1,351	864	780	147	.....	6,831
KEVIN-SUNBURST:													
Daily average	3,695	3,469	3,440	3,933	4,357	4,210	5,218	5,578	4,729	4,924	5,355	4,916	
Month	114,638	97,125	106,615	117,983	135,092	126,309	161,754	172,908	141,870	152,639	160,660	152,405	1,639,998
LAKE BASIN:													
Daily average	45	48	45	48	48	50	40	40	38	40	40	40	
Month	1,400	1,331	1,410	1,444	1,490	1,488	1,240	1,229	1,166	1,240	1,195	1,236	15,869
PONDERA:													
Daily average	921	865	883	865	881	816	905	872	926	1,236	1,280	1,312	
Month	28,549	24,201	27,383	25,950	27,313	24,490	28,057	27,035	27,784	38,309	38,406	40,668	358,145
SOAP CREEK:													
Daily average	.....	.....	.....	.....	145	.....	145	.....	.....	.....	.....	.....	
Month	.....	.....	.....	.....	4,500	.....	4,500	.....	.....	.....	.....	.....	9,000
Daily average	7,215	7,028	7,111	7,350	8,389	8,256	10,632	11,396	10,717	11,867	12,261	11,915	9,614
Total 1934	223,641	196,789	220,434	235,504	275,544	247,687	329,577	353,263	321,510	367,863	367,837	369,366	3,509,015
Total 1933	183,036	150,864	172,603	179,310	186,031	203,340	230,052	219,518	206,760	213,931	216,840	205,716	2,358,056
Total 1932	173,569	166,373	189,234	223,830	233,647	210,060	218,364	198,865	192,930	188,233	154,530	170,531	2,220,155
Total 1931	243,133	249,900	258,385	249,840	254,138	246,450	247,287	227,974	236,100	226,734	175,260	232,500	2,847,201
Total 1930	253,456	233,408	267,561	298,410	304,172	289,350	304,202	301,165	256,380	234,360	239,050	223,293	3,203,808
Total 1929	261,299	257,656	293,973	298,830	350,238	347,610	347,448	356,190	332,940	335,544	320,490	324,849	3,827,067
Total 1928	363,370	339,679	358,112	350,520	338,272	313,260	317,626	328,600	336,870	296,980	307,440	347,820	3,998,549
Total 1927	426,498	399,868	452,600	417,000	424,155	462,330	456,847	497,364	413,280	428,947	379,560	403,424	5,171,883

~long bearing contact

like a cork in a bottle

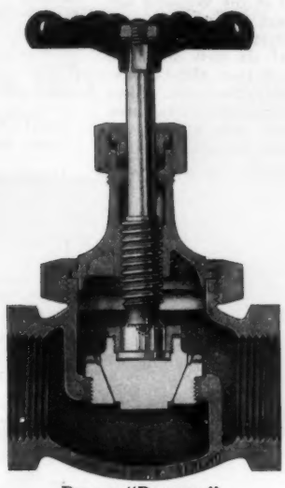


Iron Body "Ferrenewo"
Fig. 1021-P, 150 lb. SP.

LUNKENHEIMER

PLUG TYPE

"FERRENEWO" and "RENEWO" VALVES



Bronze "Renewo"
Fig. 73-P, 200 lb. SP.
Fig. 16-P, 300 lb. SP.

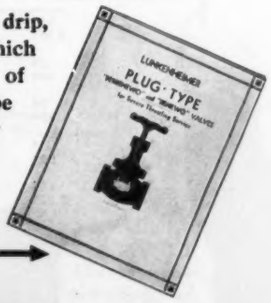
for Throttling, Drain, Drip, Water Column Blow Down and other Severe Service also preferred by some users for General Service

• The plug type disc is deep-seated and ground into its own seat, to a uniform bearing from end to end. Each plug is properly tapered with long bearing contact to fit snugly into its seat—*just like a cork in a bottle*—providing a fit as perfect as can be made to insure a tight seat and satisfactory service.

• "NS5" Alloy (patent applied for) the material of which the seat and disc are made is a new and exclusive Lunkenheimer research development. It is a non-ferrous composition of uniformly great hardness (300 Brinell) and retains its hardness at high temperatures. "NS5" will not gall; it is resistant to wear, abrasion, erosion and corrosion.

Available through the local Lunkenheimer distributor.

• Most valve users have troublesome throttling, drain, drip, water column blow down and other severe service which play havoc with seats and discs. With the combination of correct design and "NS5" seating material, Plug Type Valves approximate as closely as possible a satisfactory solution to these problems.



The interchangeability of parts between Plug Type and regular "Renewo" and "Ferrenewo" Valves is explained in Plug Type Valve booklet 541-A. May we send you a copy?

THE LUNKENHEIMER CO.
"QUALITY"
CINCINNATI, OHIO, U. S. A.
NEW YORK CHICAGO BOSTON
PHILADELPHIA SAN FRANCISCO
EXPORT DEPT. 318-322 HUDSON ST., NEW YORK

BOILER MOUNTINGS — LUNKENHEIMER VALVES — LUBRICATING DEVICES

102-72P-91

1 Wilson, NE SW NE Section 22-12-100, which blew in in November of that year at 2,200 feet as a 58,000,000-foot producer of wet gas with slight showing of green oil around the fittings. On June 11, 1934, the Mountain Fuel Supply Co.'s No. 4-B Florence Wilson, C NE NW Section 23-12-100, three-fourths of a mile northeast of the discovery (now owned by Mountain Fuel Supply Co.), began spudding. It was drilled to 3,797 feet, testing the Laramie formation of the upper Cretaceous. It cut an oil sand at 2,304-37 feet and sands showing gas, followed by water, at 2,718-33 and 2,963-85 feet. It was then plugged back to 2,345 feet and tested 20 bbls. first 24 hours through the 2-inch tubing at 2,345 feet. The 8⅝-inch casing was cemented at 2,304 feet and the elevation is 7,156 feet. The oil sand is in the Wasatch formation of Tertiary age and an important feature of the discovery is that this is the first commercial oil well developed in formations younger than the Cretaceous in the Rocky Mountain area. There are many Tertiary structures in the area which heretofore have been given scant attention in the search for new pools.

The Archuleta County discovery was made in the Oil City Petroleum Co.'s No. 1-A Garnett, NE cor. Lot 3, SW Section 25-33n-2e, on the Price structure, just north of the New Mexico line. It topped a sand in the Dakota formation at 970 feet and began showing high grade oil. The oil rose 15 feet first night and has continued to increase slowly until it stood around 400 feet in the hole at last reports. At the end of the year tanks were being installed and preparations made to run pipe and drill into the sand. There was no water showing with the oil. The elevation of the well is 7,965 feet. The oil tests 39 degrees gravity and 36 per cent gasoline.

COLORADO

Summary of Wells Completed in 1934

County—	Comp.	Prod.	Dry	Gas
Boulder	2	0	1	1
El Paso	2	0	2	0
Fremont	1	0	1	0
La Plata	1	0	1	0
Larimer	2	0	2	0
Moffat	11	16,602	1	3
Park	2	0	2	0
Routt	3	0	3	0
Total 1934	24	16,602	13	4
Total 1933	30	1,239	21	6
Difference	6	15,363	8	2

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	1	0	1	0
February	3	4,660	0	1
March	1	0	1	0
April	1	0	1	0
May	2	5,000	1	0
June	2	0	1	1
July	2	3,034	1	0
August	3	1,680	2	0
September	0	0	0	0
October	4	0	3	1
November	2	2,208	1	0
December	3	20	1	1
Total	24	16,602	13	4

Montana

While no new pools were discovered in Montana in 1934, a wildcat was drilled into production by the Texas Co. which extended the Cut Bank Field 8 miles to the south and east. Subsequent development tended to confirm the connection of this discovery with the main pool and carried the development into town lot drilling in the town of Cut Bank.

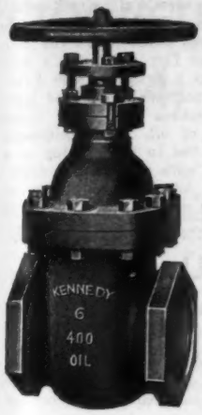
The Texas Co. well is its No. 1 State, C NE Section 16-32n-5w. It began spudding October 12, 1933, and was completed in January, 1934, at a total depth of 3,008 feet. It swabbed 258 bbls. on January 20 from sands at 2,973-85 and 2,990-97 feet. The top of the Ellis was at 2,997 feet, and the elevation is 3,878 feet. On a pumping test in February it averaged 80 bbls. a day. Drilling during the year carried the proven area to the north and a little west extending to the Santa Rita Oil & Gas Co.'s No. 3 Tribal, C NW NW Section 15-35-6w, which was drilled to 2,921 feet and plugged back 4 feet on account of a little water showing. It swabbed 100 bbls. the first 12 hours from the pay at 2,905-17 feet, and made an average of 47 bbls. a day initial on the pump. The airline distance between these two wells is 18 miles. The width of the proven area as shown by wells along the south line of Township 35n is 3 miles. Seven wells were drilled in Section 15-35-6w during the year and all were average producers.

A dry hole drilled by the Producers Development Syndicate in its No. 1 Eniarson, SW NW NW Section 29-32-4w, 4 miles to the southeast of the Texas Co.'s No. 1 State, stopped the development in that direction. It had big water in the top of the Madison at 2,785 feet and was plugged and abandoned. One well drilled a mile to the northeast of the Texas

Wyoming

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
BIG MUDDY:													
Daily average	1,754	1,649	1,703	1,673	1,804	1,796	1,768	1,760	1,707	1,776	1,757	1,795	
Month	54,391	46,179	52,799	50,182	55,931	53,868	54,804	54,546	51,215	55,056	52,719	55,633	637,323
DALLAS-DERBY:													
Daily average	597	602	593	598	600	602	515	323	558	809	556	769	
Month	18,521	16,846	18,530	17,944	18,611	18,063	15,972	10,015	16,731	25,081	16,684	23,841	216,839
DUTTON CREEK:													
Daily average	93	96	77	84	40	90	69	77	73	74	71	80	
Month	2,871	2,683	2,374	2,534	1,250	2,706	2,135	2,396	2,166	2,279	2,126	2,477	27,997
ELK BASIN:													
Daily average	576	583	581	583	549	587	615	612	534	456	433	429	
Month	17,858	16,303	18,004	17,490	17,015	17,610	19,057	18,969	16,025	14,133	12,982	13,300	198,746
FERRIS:													
Daily average	17	.....	18	20	41	20	17	18	42	15	33	16	
Month	516	.....	567	589	1,269	596	532	558	1,251	471	990	507	7,846
FRANNIE:													
Daily average	1,021	1,286	1,132	1,398	1,351	2,060	2,302	2,270	2,142	1,972	2,021	1,516	
Month	31,658	36,007	35,078	41,937	41,252	61,809	71,362	70,359	64,278	61,137	60,644	46,987	622,508
GRASS CREEK:													
Daily average	651	604	648	655	1,347	1,275	826	1,335	1,225	183	1,168	1,317	
Month	20,170	17,765	20,100	19,647	41,766	38,244	25,618	41,386	36,745	5,672	35,032	40,830	342,975
HAMILTON:													
Daily average	674	643	610	599	968	766	995	1,053	845	965	766	774	
Month	20,901	17,994	18,926	17,962	30,017	22,981	30,836	32,631	25,350	29,911	22,971	24,006	294,486
LABARGE:													
Daily average	958	923	923	931	1,185	1,140	1,362	1,431	1,413	1,387	1,285	1,236	
Month	29,694	25,855	28,623	27,918	36,729	34,211	42,226	44,348	42,402	42,998	38,544	38,320	431,868
LANCE CREEK:													
Daily average	245	243	306	325	327	314	409	420	352	251	223	351	
Month	7,603	6,802	9,488	9,757	10,131	9,416	12,673	13,016	10,552	7,793	6,688	10,876	114,795
LOST SOLDIER:													
Daily average	1,465	1,465	1,632	1,454	1,535	1,211	1,514	1,602	1,570	1,660	1,752	1,719	
Month	45,417	41,032	50,598	43,621	47,601	36,317	46,945	49,666	47,130	51,441	52,564	53,289	565,621
POISON SPIDER:													
Daily average	171	189	168	239	842	241	835	825	830	794	267	202	
Month	5,293	5,301	5,194	7,169	26,088	7,239	25,896	25,571	24,895	24,610	8,000	6,250	171,506
OREGON BASIN:													
Daily average	540	704	439	1,319	2,588	2,010	3,304	3,492	2,453	3,381	2,978	3,360	
Month	16,765	19,705	13,598	39,565	80,230	60,288	102,434	108,228	73,590	104,806	89,337	104,170	812,716
OSAGE:													
Daily average	871	983	859	831	966	893	715	715	730	722	731	717	
Month	26,996	26,130	26,631	24,933	29,904	27,004	22,165	22,157	21,906	22,382	21,932	22,216	294,392
ROCK RIVER:													
Daily average	1,525	1,511	1,516	1,466	1,469	1,549	1,434	1,492	1,437	1,441	1,467	1,491	
Month	47,271	42,322	46,988	43,980	45,539	46,470	44,471	46,248	43,101	44,679	44,016	46,225	541,310
SALT CREEK:													
Daily average	16,536	18,149	18,676	18,383	18,290	18,110	17,677	18,282	17,345	19,074	17,936	17,815	
Month	512,610	508,189	578,966	551,496	586,525	543,291	547,991	566,751	520,342	591,294	538,076	552,265	6,597,796
BYRON-GARLAND:													
Daily average	320	509	663	8	350	120	1,593	1,358	1,157	947	1,479	40	
Month	9,904	14,254	20,560	244	10,851	3,890	49,373	42,084	34,700	29,357	44,370	1,240	260,827
PILOT BUTTE:													
Daily average	29	30	29	29	25	11	5	29	23	20	12	27	
Month	908	840	902	874	775	341	145	901	698	605	362	846	8,197
TEAPOT:													
Daily average	26	22	25	28	28	30	24	24	21	26	21	14	
Month	806	619	756	844	876	907	750	742	619	798	639	429	8,785
GREYBULL:													
Daily average	9	.....	.....	.....	.....	.....	.....	5	6	5	10	10	
Month	292	.....	.....	.....	.....	.....	.....	171	170	157	314	306	1,410
MIDWAY:													
Daily average	104	114	154	83	74	88	96	102	90	72	88	76	
Month	3,232	3,200	4,668	2,487	2,304	2,646	2,962	3,165	2,689	2,231	2,631	2,350	34,566
BADGER BASIN:													
Daily average	43	45	42	44	44	43	42	30	21	39	36	39	
Month	1,320	1,264	1,300	1,364	1,362	1,281	1,317	944	942	1,222	1,074	1,217	14,607
HUDSON:													
Daily average	211	216	228	235	381	319	310	414	217	289	317	302	
Month	6,542	8,853	7,086	7,059	11,978	9,576	9,617	12,825	6,511	8,948	9,507	9,368	107,870
REX LAKE:													
Daily average	.....	.....	.....	.....	19	.....	12	33	63	70	69	70	
Month	.....	.....	.....	.....	577	.....	386	1,011	1,891	2,183	2,066	2,161	10,275
EAST BYRON:													
Daily average	446	525	362	232	72	71	448	391	432	111	390	336	
Month	13,819	14,705	11,234	6,952	2,226	2,130	13,899	12,123	12,964	3,449	11,694	10,411	115,606
BLACK MOUNTAIN:													
Daily average	.....	.....	.....	.....	335	416	400	82	142	.....	140	.....	
Month	.....	.....	.....	.....	10,390	12,492	12,413	2,564	4,270	.....	4,200	.....	46,329
SPRING VALLEY:													
Daily average	.....	.....	.....	.....	10	10	10	10	10	10	.....	.....	
Month	.....	.....	.....	.....	300	292	300	311	296	300	.....	.....	1,799
Daily average	28,832	31,173	31,386	31,218	35,855	33,789	37,299	38,183	35,443	36,548	36,005	34,501	34,216
Total 1934	895,359	872,848	972,970	936,548	1,111,533	1,013,668	1,156,279	1,183,686	1,063,429	1,132,993	1,080,163	1,069,520	12,488,995
Total 1933	979,290	855,568	965,750	895,840	934,960	899,850	967,959	952,426	922,370	910,935	889,530	914,221	11,095,729
Total 1932	1,010,445	1,093,097	1,189,997	1,102,310	1,157,223	1,048,080	1,152,270	1,167,615	1,074,930	1,007,370	1,007,700	982,545	12,994,748
Total 1931	1,358,234	1,264,568	1,264,366	1,329,390	1,329,652	1,378,720	1,225,802	1,173,784	1,110,930	1,102,267	1,119,450	1,145,199	14,692,272
Total 1930	1,430,898	1,409,184	1,587,685	1,527,930	1,565,283	1,406,850	1,464,378	1,449,426	1,512,690	1,516,489	1,384,530	1,484,684	17,740,017
Total 1929	1,512,087	1,462,336	1,599,104	1,490,430	1,581,806	1,530,160	1,674,434	1,764,396	1,652,760	1,643,775	1,586,700	1,603,630	19,071,618
Total 1928	1,756,505	1,598,602	1,714,889	1,748,528	1,908,918	1,834,410	1,852,684	1,909,476	1,791,900	1,915,397	1,762,980	1,669,179	21,403,460
Total 1927	1,870,727	1,678,180	1,840,439	1,838,070	1,896,301	1,852,920	1,898,626	1,688,725	1,577,700	1,550,620	1,563,210	1,726,157	20,983,675



Valves with ample strength

BEFORE it leaves the factory every Kennedy Valve must prove that it will withstand far more than its rated pressure, will seat tightly, release promptly, and operate dependably.

Whether you purchase a Kennedy Valve for 400-lb., 700-lb., 1000-lb. or 1600-lb. test pressure or for lighter or more extreme pressures, you have the same security of generous safety factor in design, high grade metal in every part, and effective and time-proven operating mechanism.

Kennedy Valves and Pipe Fittings can be obtained from your local supply house.

The Kennedy Valve Mfg. Co., Elmira, N. Y.

Warehouses and Sales Offices in principal industrial centers.

Send for the Kennedy Catalog

NRA

KENNEDY

VALVES~PIPE FITTINGS~FIRE HYDRANTS

Seismograph leads again

Postal Telegraph
THE INTERNATIONAL SYSTEM

AD BRANCH

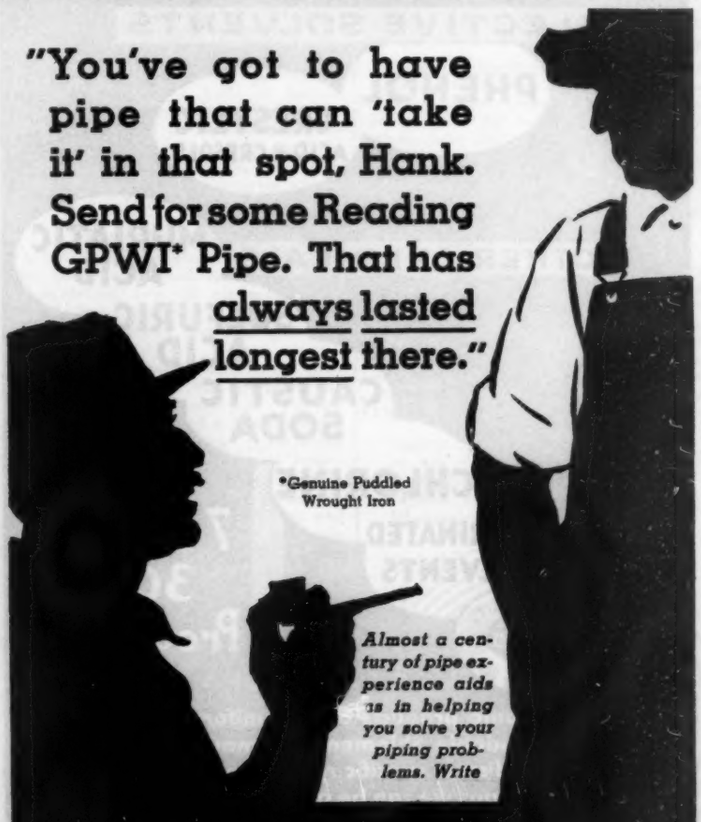
KA8 39 EXPED LITTLE AMERICA VIA SANFRANCISCO CALIF 7 NFT
W G GREEN=
SEISMOGRAPH SERVICE CORPN TULSA OKLA (VIAMACKAYRADIO)=

DISCOVERED LAND FEW HUNDRED FEET ABOVE SEA LEVEL WITH EQUIPMENT LIKELY SNOW COVERED ISLAND OF TWENTY THOUSAND SQUARE MILES YOUR EQUIPMENT MOUNTED IN CONDOR PLANE ONE STATION PER HOUR AT THIRTY MILES INTERVALS REGARDS=
POULTER.

Seismograph Service Corporation

"You've got to have pipe that can 'take it' in that spot, Hank. Send for some Reading GPWI* Pipe. That has always lasted longest there."

*Genuine Puddled Wrought Iron



Almost a century of pipe experience aids us in helping you solve your piping problems. Write

READING IRON COMPANY
PHILADELPHIA

SCIENCE AND INVENTION HAVE NEVER FOUND A SATISFACTORY SUBSTITUTE FOR GENUINE PUDDLED WROUGHT IRON

Co.'s No. 1 State in Annand & Hutchings' No. 1 Bonnett, NW cor. SE Section 10-32-5w, had the Cut Bank sand at 2,913-28 feet with water at 2,922 feet. It had an oil show at 2,912-15 feet. The best completion in the field was A. B. Cobb's No. 3 Walberger, NE SW SE Section 35-35-6w, which on September 10 was completed at 2,806 feet, flowed 722 bbls. the first 48 hours and three months later was flowing 130 bbls. daily.

MONTANA

Summary of Wells Completed in 1934

County—	Comp.	Prod.	Dry	Gas
Big Horn	2	350	0	1
Carbon	4	352	3	0
Gallatin	1	0	1	0
Glacier	116	11,463	13	4
Golden Valley	1	0	1	0
Hill	1	0	1	0
Judith Basin	2	0	2	0
Liberty	4	10	2	1
Petroleum	4	0	4	0
Phillips	7	0	0	7
Pondera	2	0	2	0
Teton	2	0	2	0
Toole	38	1,019	5	8
Total 1934	184	13,194	36	21
Total 1933	75	4,289	18	12
Difference	109	8,905	18	9

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	5	427	2	0
February	5	521	0	0
March	9	832	1	0
April	14	630	6	0
May	9	644	2	0
June	18	858	2	4
July	19	1,894	4	1
August	29	2,449	5	3
September	26	1,245	6	6
October	23	1,718	4	4
November	14	613	4	2
December	13	1,358	0	1
Total	184	13,194	36	21

Wyoming

Three new oil pools and one gas field were discovered in wildcats drilled in Wyoming during 1934. Two of the oil discoveries produce light crude and the other opened a black oil field.

The black oil discovery was made on the Waugh structure, in Hot Springs County, in the Big Horn Basin, in a test drilled jointly by the California Exploration Co., a subsidiary of the Honolulu Corp., of California, and the California Co., a subsidiary of the Standard Oil Co. of California, in their No. 1 Government, NE SE NE Section 12-44n-97w. The test began spudding in March with cable tools with the Embar-Tensleep in the Pennsylvanian formation as the objective. In December the drill topped the Embar at 3,740 feet, encountered the first oil at 3,776 feet and was drilled to 3,806 feet, total depth. The 8¼-inch was then cemented just above the pay. The oil rose 3,700 feet in the hole in six hours. There was practically no gas and the well did not flow, but pumped 538 bbls. first 24 hours. The top of the Chugwater was at 2,335 feet and the first red shale at 2,350 feet. The new field is located 6 miles east of Hamilton Dome, the nearest pool, and 18 miles northwest of Thermopolis. The Illinois Pipe Line Co.'s line from the Hamilton Dome runs within a few miles of the field. The oil has an asphalt base and tests 25 degrees gravity. No plans have been announced as to development, but it is not likely any additional drilling will be undertaken before spring.

WYOMING

Summary of Wells Completed in 1934

County—	Comp.	Prod.	Dry	Gas
Albany	2	60	1	0
Big Horn	2	500	1	0
Carbon	4	0	1	3
Converse	3	0	1	2
Fremont	3	2	2	0
Hot Springs	3	575	0	1
Lincoln	2	27	0	0
Natrona	4	151	0	0
Niobrara	1	10	0	0
Park	9	6,110	1	1
Sheridan	1	0	1	0
Sublet	1	15	0	0
Sweetwater	10	400	0	2
Washakie	3	15	2	0
Weston	19	329	4	0
Total 1934	67	8,194	14	9
Total 1933	62	2,104	24	14
Difference	5	6,090	10	5

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	4	85	2	0
February	0	0	0	0
March	3	140	0	1
April	3	0	1	2
May	10	1,260	2	1
June	7	70	3	1
July	5	22	2	1
August	4	1,005	0	0
September	3	964	0	0
October	7	3,315	3	1
November	11	928	1	1
December	10	405	0	1
Total	67	8,194	14	9

New Light Oil Pool

The most important of the light oil discoveries was made in a wildcat drilled by the California Co. on the Quealy Dome, in Albany County, in its No. 1 Holst, NE SE SE Section 13-17-77. The structure had been tested in former years by the Matador (Shell) Petroleum Co. and the Texas Co. The Matador well was in the NW NE of the section and was abandoned at 3,600 feet after encountering water in the Muddy and Dakota. The Texas Co. well was in the NE NE NW of the section and was abandoned at 3,574 feet without reaching the Muddy. It had water in the Frontier.

The California Co.'s test was spotted after a seismograph survey and the location was made about three-fourths of a mile to the southeast of the other tests. It began spudding September 12 and was completed early in December. The Muddy sand was logged at 3,146-75 feet and the elevation is 7,504 feet. The 9⅝-inch was cemented at 3,141 feet. It was given a pumping test through the 2½-inch tubing and made 60 bbls. the first day. The oil tests 36 degrees gravity and after the 1,000 bbls. of storage was filled, the well was shut in until spring when it will be drilled deeper to test the Dakota and possibly the Lakota and Sundance. It was drilled with rotary tools and Manning & Terry had the contract.

The third oil discovery was the opening of a small shallow pool in Lincoln County near the town of Cumberland. The discovery was made in H. M. Eller and others' No. 1 Government, SE cor. SW Section 32-19n-116. It was completed at 360 feet and pumped 20 bbls. of 50 gravity crude first 24 hours. A second well was drilled half a mile to the north in the NE cor. SW Section 32 and was completed at 385 feet for 2 bbls. initial. The Ellison Oil Co., under which name the second well was drilled by the same interests, plans to build a small skimming plant and market the gasoline locally.

The gas discovery was made in a fault block on the south end of the Oregon Basin structure in Park County in the Dry Creek Oil & Gas Co.'s No. 1 Government, NE cor. Lot 2 (NE SE) Section 9-50-100. It encountered a flow of 14,000,000 feet of gas a day in the top of the first Frontier at 900 feet. The gas was cased off with the 5-3/16-inch at 1,148 feet and at 1,150 feet the well made 10,000,000 feet of gas a day from the second Frontier, or Wall Creek sand. The Oregon Basin Field immediately to the north produces black oil in the Embar-Tensleep. The Dry Creek Co.'s well was completed as a gasser in the Frontier and a deep test will be drilled later to go to the Dakota and other lower sands in search of oil. The significance of the discovery lies in the proving of a large fault block with an immense drainage area, which has oil possibilities as well as opening a new gas area. The well was spotted by C. T. Lupton of Denver.

Utah

Utah scored twice in 1934, both of which were gas discoveries. One opened a new field in Emery County, in the south central part of the state, and the other proving a deeper pay in Daggett County, in the northeastern corner of Utah.

The new gas field was discovered on the Last Chance structure in Emery County, 90 miles west of Moab and 160 miles south of Salt Lake City in the Ramsey Petroleum Corp.'s No. 1 Senior, SW NE SW Section 13-26s-7e. Late in July, 1934, a wet gas sand was encountered at 2,530-34 feet in broken lime of the upper Moenkopi, the flow being estimated at 50,000 feet a day. Another flow was struck at 2,690-95 feet, estimated at 4,000,000 feet a day. More gas, estimated at 15,000,000 feet a day, was found at 2,724 feet and increased at 2,742 feet. The last gas was in a dark gray limestone, believed to be the Moenkopi (lower Triassic). Additional gas was encountered below this depth and the hole continued to 3,168 feet, in the Coconino sandstone, at which depth it was decided to plug back and save the well as a gasser. It will plug back to 2,800 feet to produce the gas horizon between 2,724-2,800 feet. The gas at 2,724-71 feet gauged 21,000,000 feet in 24 hours and the horizon between 2,724-2,800 feet is expected to make around 30,000,000 feet, the other gas horizons having been cased off. The structure has a closure of 600 to 700 feet and covers an area of approximately 250 square miles within the closing contour.

The second Utah discovery was in the Mountain Fuel Supply Co.'s No. 2 Murphy, CSL NE NE Section 21-3n-24, in the Clay Basin structure, in Daggett County, in the northeastern corner of the state, 20 miles west of the Hiawatha gas field and 14 miles from the Western Public Service Corp.'s gas line into Utah. It began spudding early in August with rotary tools and was drilled to 6,030 feet when operations were suspended for the winter. It topped the Frontier at 5,306 feet and the Dakota at 5,627 feet and was in the Morrison when drilling was suspended. A show for 3,000,000 feet of gas in the Frontier was cased off with the 8⅝-inch at 5,627 feet and four benches of the Dakota gauged 32,000,000 feet of gas a day. The well will be completed in the spring, or drilled deeper. It is the first test to horizons below the Frontier. In 1927 Producers & Refiners Corp. drilled in the SW NW Section 22-3n-24, and encountered gas in the Frontier at 5,373-75 and 5,395-5,412 feet. The upper sand was cased off with the 4¾-inch and the second sand gauged 3,276,000 feet a day with a pressure of 2,110 pounds. The Anticline has an east-west trend and is approximately 8 miles long and 4 miles wide. The elevation of No. 2 Murphy is 6,485 feet. A market is available through the trunk gas line into Utah 4 miles away.

UTAH

Summary of Wells Completed in 1934

County—	Comp.	Prod.	Dry	Gas
San Juan	3	0	3	0
Total 1934	3	0	3	0
Total 1933	4	2	3	0
Difference	1	2	0	0

Summary by Months

Month—	Comp.	Prod.	Dry	Gas
January	3	0	3	0
February-December	0	0	0	0
Total	3	0	3	0

Production in Western Canada Increased in 1934; Turner Valley Most Active Area

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

The year 1934 in the Canadian petroleum industry was featured by a marked increase in production. Gains were recorded in all three petroleum producing provinces, though Alberta was responsible for both the largest increase and the major portion of the year's production.

While revised official figures of the 1934 production are not available, official estimates place the output for the year at 1,414,197 bbls. compared with an official total of 1,145,333 bbls. in 1933. The 1934 estimates do not include a small production from the Fort Norman Field in the Northwest Territories.

The three petroleum producing provinces all showed gains over 1933. Estimated production in 1934 follows:

	(Bbls.)	Pct. gain
New Brunswick	11,020	26.8
Ontario	141,042	2.9
Alberta	1,262,135	28.9

The increase in production was due, in New Brunswick and Ontario, to the more efficient handling of old producing wells. Practically no new producers were completed in these provinces. In Alberta the increase in production came chiefly from the new southerly extension of the Turner Valley Field, where several good wells were finished.

Natural Gas Production

There was a further decline in natural gas production in 1934. The total production, with December estimated, for the year just closed was 21,949,163,000 feet for all Canadian fields. Final official figures gave the 1933 output at 23,138,103,000 feet. The comparative figures for the various provinces, in thousands of feet, are as follows:

	1934	1933
New Brunswick	616,617	592,242
Ontario	6,865,289	6,793,555
Alberta	14,453,037	16,375,000

There was a nominal production from Manitoba during the year, which is included in the total but not detailed separately. In October, November and December there was also some production from the new Lloydminster Field in Saskatchewan, which was not detailed.

Alberta Fields

In Alberta, the Turner Valley Field was the major contributor to both the aggregate production for the year and to the increase over 1933 figures. Comparative figures of pipe line runs for the various months of both years are as follows:

	1934	1933
January	90,267	43,989
February	89,400	38,807
March	94,723	48,900
April	88,874	45,763
May	87,689	64,601
June	91,326	67,072
July	89,852	63,000
August	88,443	68,339
September	84,841	67,412
October	85,613	79,272
November	76,518	72,456
December	83,718	79,878
Total	1,051,264	739,489

Pipe line shipments to the large Calgary refineries are supplemented by sales to consumers in the field and some shipments to smaller refineries, so that the actual output of the field is somewhat larger than the monthly figures indicate. The difference is shown in the figures issued by the Alberta government for the various pools in the province. Comparative figures in 1934 and 1933, in barrels, are as follows:

Field—	1934	1933
Turner Valley, naphtha	1,207,275	939,604
Turner Valley, light crude	21,906	2[illegible]
Red Coulee, light crude	29,887	31,089
Wainwright, heavy crude	11,754	5,163
Skiff, heavy crude	510	.....

The figures given include an estimate for December. They show that of the Turner Valley production for 1934, some 177,920 bbls. were marketed direct to consumers or to the smaller refineries.

A feature of the comparative figures is the more than 100 per cent increase in the Wainwright heavy crude production, due, not to new drilling, but to the bringing back of a number of old wells.

Turner Valley

The large increase in Canadian production in 1934 was due almost entirely to the Turner Valley Field; and the Turner Valley increase was in turn the result of intensive development in the far south end where the producing area was extended yet farther to the southeast.

In 1934 intensive development was continued in Section 28-18-2w5. The first producer in this section was drilled in 1933. By the early summer of 1934, locations had been made on practically every subdivision in the section, with actual drilling started on most. Before the end of the year, five new producers were brought in. Becker Syndicate's No. 2 Anaconda, LSD 15, started around 400 bbls., dropping to 115 bbls. in October. Mar Jon Oil Co.'s No. 2, LSD 10, starting around 45 bbls. a day, was increased by a shot to around 170 bbls. Century Royalties' No. 1, LSD, 14, gradually increased to more than 200 bbls. a day. Carleton Royalties' No. 1, LSD 2, in spite of freezing, made about 117 bbls. a day, while late in December Director Royalties' No. 1, LSD 16, finished with better than 100 bbls. a day. All these got their production from the Madison lime.

Of the other tests in Section 28-18-2w5, Spooner Oils' No. 5 Anaconda, LSD 1, and Pacalta Oils' No. 1, LSD 7, were, late in December, drilling in the lime. Three other tests were nearing that horizon. Three tests were standing unfinished, and no start had been made on three of the locations.

Probably the most important completion of the year was Highwood-Sarcee's No. 1, LSD 16, Section 21-18-2w5. It extended the producing area a half mile southeast along the structure, got commercial production of light crude in the upper horizons, and secured an exceptionally good naphtha recovery from the Madison at 5,762 feet. The initial flow was rated as high as 600 bbls. with a settled production around 300 bbls. a day. This strike encouraged drilling still farther south. In the course of the year four other tests in Section 21 were more or less active, of which Highwood Royalties' No. 1 Oliver, LSD 3, was the farthest south, while at the end of December Union-Freehold Oil Corp.'s No. 1, LSD 8, had attained the greatest depth, around 4,610 feet. The other tests in this section were shut down.

The year was noteworthy for active drilling on the east side of the structure. Northwest Co.'s No. 1 Calgary & Edmonton-Longview, LSD 5, Section 27-18-2w5, the first Imperial Oil drilling activity in more than a year, went to 6,220 feet, getting a small naphtha recovery, 21 bbls. a day, from the lower lime. In the same section Merland Oil Co.'s No. 2 started in LSD 13, offsetting No. 1, a consistently good producer. Farther north two tests were active in Section 34-18-2w5, Nolan-Hungerford Royalties' No. 1 and Livingston Syndicate's No. 1, both in LSD 5.

Royalite Acquires Production

A feature of the year's development in the Turner Valley Field has been the steady acquisition by Royalite Oil Co. of the deep lime production of independent companies in the older areas. In most cases the consideration was a block of Royalite stock. The acquisitions extended from Section 12-20-3w5 in the northern section of the Central Field to Section 17-19-2w5 in South Turner Valley; and deep lime rights taken over included those of the McDougall-Segur Exploration Co., New McDougall-Segur Oil Co., McLeod Oil Co., Okalta Oils, British Dominion Oil & Development Corp., Home Oil Co., Commonwealth Petroleums, Alberta Pacific Consolidated Oils, Wellington Oil & Gas Co., Calmont Oils, Mayland Oil Co. and others. The acquisitions, in most cases small producers, protected the Royalite company from the necessity of offset drilling or facilitated the economical operation of its holdings and the shutting in of unnecessary wells.

Royalite Oil Co. continued the successful operation of its gasoline absorption plant in the central field, the capacity being materially increased late in 1933. In addition, Gas & Oil Products, Ltd., controlled by Mercury Oils, Ltd., constructed an absorption plant in Section 4-19-2w5, which is now handling gas from independent producers in that area.

Operations in the Foothills

In 1934, drilling operations were continued in several promising areas in the Alberta foothills, both north and south of Turner Valley; but at the end of the year no conclusive results had been secured.

In the far south, the Watson structure west of Lundbreck, favorably reported by several geologists, at last saw three tests under way late in 1934. In the old Oil City Field, Waterton Lakes Park, Oil City Royalties' No. 1, Section 30-1-30w4, was deepened to 2,138 feet without getting commercial production.

East of the Turner Valley, Ranchmen's Gas & Oil Co.'s No. 1, LSD 16, Section 13-20-28-w4, on the Aldersyde structure, after several years of intermittent drilling, encountered what appears to be a promising oil sand at around 6,265 feet. At the end of 1934 it was reported almost ready for a definite production test.

Operations in Ontario

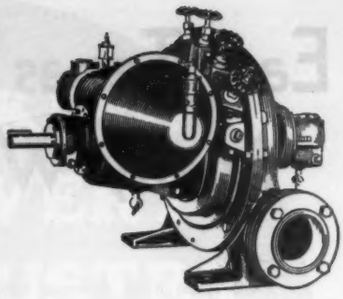
Activity in the Ontario fields was more pronounced than in many years. No important new oil production was secured, but a number of large gassers were completed and one new gas field was opened.

The new field, near Eden, on the Norfolk-Elgin county line was opened by E. P. Rowe and Associates of Toronto whose No. 1 well proved a fair producer, around 162,000 feet a day. Some seven wells were drilled by the Rowe interests in Bayham township on the Elgin side, of which five were good producers. On the Norfolk side Chas. Simpson and Associates finished a dry hole, and two other tests were drilling. Production of individual wells ranges up to 750,000 feet a day.

Saskatchewan Development

One of the most important developments of 1934 was the entry of the province of Saskatchewan into the list of definite producing areas, as a result, early in the year, of the completion of Lloydminster Gas Co.'s No. 1, LSD 6, Section 11-50-28w3. At 1,974 feet it had a flow of 1,675,000 feet a day with 565 pounds pressure. The gas has been piped to Lloydminster, and further drilling is under way.

The only other definite completion in Saskatchewan was Pine River Petroleum's No. 1, LSD 8, Section 23-12-24w2, on the Dirt Hills structure 50 miles southwest of Regina. This finished dry at 4,365 feet after getting a couple of non-commercial gas shows.



MORE PROFIT
TO YOU
FROM
Small Packages

On an *x* horse power job, when *x* is small, the nearer you can approach *x* with a steam turbine, the more money you are going to save on power cost.

Coppus Steam Turbines not only give you the advantages over electric motors of wide speed range and freedom from sparking, but they also, almost alone among steam turbines, offer you small sizes for your small horse power jobs. We build 5 sizes up to 100 HP.—with a different price for each size, a tremendous saving over the large-size turbine you might otherwise have to buy.

The Coppus Steam Turbine is not limited to steam as a power producing medium. It works equally efficiently with compressed air and natural or process gas.

This is the lowest-priced quality steam turbine you can buy. Remember the name *Coppus* when considering the proper prime mover for that small drive. Meanwhile, have Bulletin 135-7 on your desk for full facts on how this type of power producer can save you money.

Run Them at Low Speeds —Economically

The higher the speed of a steam turbine, the higher its steam economy. Yet it is possible and practical to run them at low speeds. Coppus is the only manufacturer making a complete line of steam turbines with *built-in* speed reducers eliminating expensive assembly with flexible couplings, etc. Also described in Bulletin 135-7.

Coppus Steam Turbines are a product of the Coppus Engineering Corp., Worcester, Mass., manufacturers of Coppus Air Filters, Heat Killers, Blowers, etc. Bulletins on request.

Main Office: 354 Park Avenue, Worcester, Mass.; branches in oil centers; representatives in principal cities.

1534

East Texas Produced 178,500,411 Bbls. in 1934; Many Wildcat Dry Holes in Outlying Areas

By L. E. BREDBERG

The East Texas Field produced 178,500,411 bbls. of oil in 1934, an average of 489,042 bbls. per day, according to the best information The Oil and Gas Journal was able to gather in the course of a careful check on the field throughout the year.

Authorities will always differ on what East Texas has produced because of the variety of estimates on the quantity of illegally produced or "hot" oil which came out of the field.

The reports to the Railroad Commission showed one thing; the reports to the U. S. Bureau of Mines showed another and in addition to these were the estimates on unrecorded hot oil output.

Production last year failed to reach the high figure of 1933 which was 202,869,340 bbls. The total of the field since the fall of 1930 up to the end of 1934 was 611,071,184 bbls.

Of chief importance in reviewing East Texas for the year 1934 was the curtailing of overproduction from an estimated 135,000 bbls. per day down to around 20,000 to 35,000 bbls. per day on October 25, when the Federal Tender Board held its first meeting at Kilgore. The moving of three capable federal men in by the Government, to investigate and pass upon all crude oil and refined products offered for interstate shipments, was the supreme blow to the violators in the field. This action started the enforcement of state and federal laws dealing with the production and shipping of oil. If the federal Government had not moved in this fashion, overproduction might, and no doubt would, have continued to run rampant.

Following this up, the Railroad Commission gained more power when the state legislature and courts gave it authority to stop all shipments of refined products, as well as crude oil, which had been illegally produced in the field. This order went into effect in December, the bill passed by the legislature taking effect December 25. Since the courts previously sustained the order, the commission took action under it the fore part of December and brought overproduction down to an estimated 3,000 to 5,000 bbls. per day the last week in the year. Overproduction is expected to be entirely wiped from daily reports on the field, because of the concerted action of all Railroad Commission men in checking the few refineries remaining in operation, and shipments being made from them to various points in the state. The federal Government has its eagle eye on all products shipped out of Texas, and no one is trying to run that blockade with hot oil or products refined from it. The present year will see a big difference in production and distribution figures in the East Texas Field, the average weighted bottom hole pressure already having shown a turn for the better due to the elimination of vast daily withdrawals.

3,700 Completions

More wells were completed in the last six months of 1934 than in the January to June period. Nearly 3,700 wells were completed in the year, many operators having obtained permits to drill on small tracts, and tracts which were subdivided merely with the idea of drilling more wells and getting a little more of the oil allocated to the field daily under the state and Federal quota. If the "hot" oil operator cannot overproduce his wells he apparently feels that he will make up for such a loss by drilling more wells and raising his production in that manner. But with present allocations, drilling of more wells only serves to cut back the daily allowable of each well in the field to hold the field down to its quota.

The "Little Commission"

During the latter part of June the Railroad Commission appointed a committee of three East Texas business men to work with their field men and scrutinize all oil offered for shipment out of the field. This committee came to be known as the "Little Commission" and performed valuable work for the commission and the industry. They later passed on all refined products tendered for shipment when the commission gained this power through the courts and a bill passed by the state legislature. This committee is still functioning.

The commission's orders were attacked again and again during the year, but the courts, in the main, upheld all its orders. The Federal Tender Board's orders were also attacked, but the Government also won in these skirmishes, and that board was still functioning at the close of the year. The Railroad Commission is expected to maintain its present strong position during 1935, with the result that production will be held to requirements, and hot oil nearly, if not entirely, elimi-

East Central Texas

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
BOGGY CREEK, CHEROKEE:													
Daily average	601	602	606	604	592	602	614	589	610	602	590	595	
Month	18,639	17,052	18,786	18,127	18,350	18,064	19,038	18,252	18,306	18,668	17,691	18,446	219,418
CURRIE, NAVARRO:													
Daily average	152	140	158	150	149	178	162	149	148	122	135	153	
Month	4,721	3,928	4,906	4,494	4,623	5,342	5,027	4,627	4,320	3,784	4,062	4,733	54,567
CAYUGA, ANDERSON:													
Daily average	.....	.....	487	823	1,062	1,471	1,505	2,510	2,847	2,784	2,965	3,017	
Month	.....	.....	15,089	24,692	32,951	44,126	46,655	77,796	85,414	86,299	88,946	93,524	595,492
LONG LAKE, ANDERSON:													
Daily average	47	51	111	153	144	125	112	130	117	121	125	125	
Month	1,450	1,416	3,444	4,596	4,468	3,749	3,464	4,030	3,518	3,759	3,750	3,881	41,525
MEXIA, LIMESTONE:													
Daily average	2,237	2,091	2,072	2,170	2,135	2,225	2,163	2,277	2,278	2,095	2,186	2,237	
Month	69,348	58,546	64,224	65,113	66,181	66,749	67,060	70,591	68,333	64,931	65,574	69,344	795,994
POWELL, CHEROKEE:													
Daily average	2,552	2,536	2,529	2,490	2,481	2,478	2,434	2,478	2,446	2,353	2,370	2,374	
Month	79,110	71,006	78,394	74,693	76,910	74,341	75,381	76,811	73,392	72,932	71,107	73,590	897,667
RICHMOND, NAVARRO:													
Daily average	37	41	36	35	37	45	37	41	38	31	34	36	
Month	1,142	1,151	1,104	1,059	1,149	1,347	1,149	1,269	1,147	963	1,017	1,116	13,613
SATAN:													
Daily average	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Month	66	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	95
VAN, VAN ZANDT:													
Daily average	37,495	37,540	37,546	40,763	43,965	46,350	43,212	43,484	43,354	35,228	34,754	37,402	
Month	1,159,562	1,051,118	1,163,937	1,222,894	1,362,912	1,390,503	1,339,576	1,348,009	1,300,624	1,092,071	1,042,617	1,159,454	14,633,277
WORTHAM, FREESTONE:													
Daily average	110	104	104	107	96	98	101	133	119	106	99	109	
Month	3,412	2,921	3,225	3,207	2,979	2,942	3,126	4,118	3,563	3,281	2,966	3,381	39,121
Daily average East Central Texas	43,144	43,113	43,649	47,296	50,662	53,572	50,338	50,790	51,954	43,442	43,258	46,047	47,371
Total East Central Texas	1,337,450	1,207,167	1,353,109	1,418,875	1,570,523	1,607,163	1,560,476	1,605,503	1,558,617	1,346,688	1,297,730	1,427,468	17,290,769
Total 1933	1,510,082	1,651,962	1,833,473	1,768,931	1,824,829	1,749,086	1,807,796	1,820,568	1,541,010	1,400,332	1,304,066	1,340,406	19,552,541

East Texas

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
LATHROP:													
Daily average	192,107	199,311	211,417	214,174	215,498	234,784	230,790	205,009	220,083	188,586	169,477	150,712	
Month	5,955,317	5,580,699	6,553,939	6,425,223	6,680,438	7,043,524	7,154,488	6,355,272	6,602,486	5,846,166	5,084,320	4,672,077	73,953,949
KILGORE:													
Daily average	136,814	143,875	153,660	155,669	156,631	170,655	167,481	151,316	162,441	139,494	133,435	143,197	
Month	4,241,230	4,028,511	4,763,450	4,670,068	4,855,572	5,119,647	5,191,919	4,690,790	4,873,237	4,324,319	4,003,044	4,439,115	55,200,902
JOINER:													
Daily average	122,114	127,116	139,510	138,882	139,740	152,250	149,465	131,792	141,480	121,233	127,767	130,820	
Month	3,785,545	3,559,252	4,324,807	4,166,459	4,331,936	4,567,502	4,633,415	4,085,561	4,244,407	3,758,218	3,833,024	4,056,434	49,345,569
Daily average East Texas	451,035	470,302	504,587	508,725	511,869	557,689	547,736	488,117	524,004	449,313	430,680	424,730	489,042
Total 1934	13,982,092	13,168,462	15,642,196	15,261,750	15,867,946	16,730,873	16,979,822	15,131,623	15,720,130	13,928,703	12,920,588	13,166,626	178,500,411
Total 1933	10,459,565	10,641,574	17,355,872	10,916,250	31,322,545	22,908,640	20,691,805	18,707,144	16,679,634	16,273,911	13,423,719	13,488,691	202,869,340
Total 1932	10,257,192	8,988,703	10,141,772	10,659,801	10,707,333	9,997,233	10,231,490	10,200,318	11,193,021	11,235,554	10,662,484	7,569,493	121,944,399
Total 1931	110,515	701,739	2,900,925	7,479,756	9,658,710	10,680,539	14,157,981	16,813,815	11,156,105	12,690,978	11,716,113	9,660,736	107,727,912
TOTAL EAST CENTRAL AND EAST TEXAS:													
Total 1934	15,319,542	14,375,629	16,995,305	16,680,625	17,438,469	18,337,836	18,540,298	16,737,126	17,278,747	15,275,391	14,218,118	14,594,094	195,791,180
Total 1933	11,969,637	12,293,536	19,189,345	12,685,181	33,147,374	24,657,726	22,499,601	20,527,712	18,220,644	17,674,243	14,727,785	14,829,097	222,421,881
Total 1932	11,752,519	10,523,809	11,846,674	12,323,546	12,473,164	11,814,351	12,111,443	11,951,366	12,822,774	12,816,323	12,131,562	9,129,196	141,697,727
Total 1931	1,360,297	1,887,596	4,356,079	8,989,706	11,348,163	12,468,225	16,845,402	18,506,303	12,886,428	14,425,865	13,486,657	11,322,994	126,892,814
Total 1930	669,513	678,455	813,799	1,030,567	1,194,501	1,229,886	1,259,256	1,246,657	1,228,947	1,320,710	1,257,992	1,266,110	13,196,403
Total 1929	676,021	679,471	686,569	695,389	698,505	677,820	660,851	582,342	549,000	580,595	536,913	651,062	7,713,557
Total 1928	797,384	727,284	780,967	727,455	726 122	706,269	713,628	723,016	711,450	709,120	657,810	705,002	8,696,507
Total 1927	1,479,568	398,393	1,442,554	1,354,690	1,066,028	1,022,720	1,002,230	968,659	873,720	829,845	856,470	865,234	13,162,026
Total 1926	1,938,851	1,759,548	1,822,614	1,762,970	1,703,853	1,557,780	1,662,437	2,198,365	1,865,970	1,731,598	1,558,890	1,734,047	21,287,923

nated. However, the field is so large, has so many wells, and there are so many operators involved in the producing, refining and transportation of oil and refined products from the field, that it will be a Herculean task to absolutely prevent overproduction altogether.

Field in Good Condition

The end of the year saw the field in the best condition it has been in during the past four years. Bottom hole pressures increased to 1,258 pounds weighted average over the field, gaining 31 pounds during November and December, after the Federal Tender Board went into action preventing at least 100,000 bbls. of oil being overproduced in the field. The commission knocked overproduction down another 30,000 bbls. per day, bringing the estimated daily overproduction down to only 3,000 to 5,000 bbls. per day at the year's end.

Gladewater Area Heavily Drained

The Gladewater area, in which there are 29 refineries, has been heavily drained, causing many wells to go dead and be drowned out. Operators owning wells in that area have been working them over and plugging back during the year to shut off water and bring their wells back on production. Overproduction in this immediate area has run rampant during the past two and one-half years, the local refineries taking most of the oil. Bypassing and stealing of oil took place on a large scale in and around the townsite.

800 Wells Making Water

There are now around 800 wells making water, various percentages, from a fraction of 1 per cent to 98 per cent, some of them standing shut in in various parts of the field, because of salt water killing the oil production. However, the salt water production is only a little over 10,000 bbls. per day, which is not a great percentage considering that there are over 15,600 wells producing in the field, and withdrawals have been exceedingly heavy at various times, especially in certain local areas, as mentioned above, in Gladewater.

Twenty-five New Refineries

Twenty-five more refineries were constructed in the field during the year, bringing the total to 81. Some of the larger plants had cracking units installed in order to obtain a higher percentage of gasoline from the oil, and also to put out a better grade of motor fuel. At the present time there are only 20 of these plants operating since others were not connected to sufficient daily allowables of legal oil to maintain operations, and were prevented from operating on "hot" oil as the majority of them had been doing throughout the year. One other plant, with a capacity of 2,500 bbls. per day, is now under construction at Camp Switch, by the Premier Oil & Refining Co.

Twenty Casinghead Plants

There are now 20 casinghead gasoline plants operating in the field, three shut down. They are tied into 6,133 wells. The plants have a capacity of 106,500,000 feet of gas per day, and are making 161,500 gallons of gasoline daily. The gas in the field has a gas content of between 2 and 3 gallons per 1,000 feet. The gas in the southernmost end of the field contains the smallest gasoline content, several dry gas producing wells being located in that area.

More wells are expected to be connected to by gas lines in 1935, and return lines are expected to carry the residue gas back from the plants to repressure wells on leases where the bottom hole pressure falls so low as to necessitate artificial means of lifting the oil to the surface. Little repressuring is done in the field at the present time, but as the number of dead or pumping wells increase, gas lift methods will no doubt increase.

Important Property Transfers

The East Texas Oil & Refining Co.'s 255 gross wells with a daily allowable production of 9,000 bbls. were bought by the Magnolia Petroleum Co.; the Cranfill & Reynolds properties were sold to the Pew Estate which organized the General Crude Oil Co., a subsidiary of the Sun Oil Co., to develop and produce the newly acquired properties; the American Liberty Oil Co.'s properties were bought by the Atlantic Oil Producing Co., which deal involves 125 wells on 25 leases covering 1,560 acres. J. D. Wrather sold his two refineries, the Overton Refining Co. plant at Overton and the Kilgore Refining Co. plant at Kilgore, including his producing properties, to Col. H. T. Barton of the Lion Oil & Refining Co.

The Eastern Texas Petroleum Co. was organized by Freeman W. Burford, who formerly organized the East Texas Refining Co. and the East Texas Oil & Refining Co., the latter selling its properties to Magnolia, as mentioned above. The new company formed by Mr. Burford immediately took over some properties in Upton County and developed a considerable number of wells during the latter part of the year, some of them extending the field to the east and to the north.

Several refineries changed hands in the field, one of the largest plants, the Taylor Refining Co. plant at Tyler, having been sold to the McMurray Brothers who have a refinery located between Arp and Overton. The name of the company operating the former Taylor plant is the Tyler-Texas Oil & Refining Co. Capacity of the plant is 15,000 bbls. per day. A large amount of steel storage was included in the deal.

East Central Texas Exploration

There were 158 wildcat tests abandoned in East Central Texas and on edges of the vast East Texas Field in 1934, including 11 in Van Zandt County, several of which were in the Van Field where a fault cuts across the field and tests missed the sand. Twenty-three holes were abandoned in Gregg County alone. These were drilled mainly on the eastern and western edges of the East Texas Field. Rusk and Smith Counties also saw dry holes on the edges of the field, and the abandonment of several remote wildcats. Nine tests were abandoned in each of these counties during the year. The East Texas Field extends up into Upshur County and a considerable number of dry holes were drilled trying to extend the field in various directions, while several wildcats were abandoned in other parts of the county. There were 19 tests abandoned in Upshur County during the year.

Cherokee County was one of the most active exploration areas for awhile, due principally to Wood and others bringing in a wildcat Woodbine sand well about 6 miles southwest of Rusk on the New Birmingham Development Co. lands in the Levi Jordan Survey, the fore part of June. This test was completed at a total depth of 5,121 feet, making some water. The water increased and a short time later it was whipstocked back 180 feet and redrilled to 5,124 feet where it is now bottomed and producing. After whipstocking and redrilling it made 25 bbls. of oil per hour through three-sixteenths-inch tubing choke, showing a little water. Gravity of the oil tested 39.8 degrees at 77 degrees temperature.

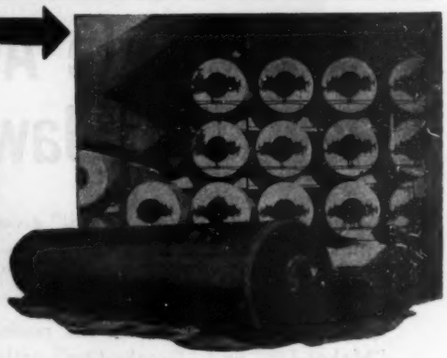
The discovery immediately caused the influx of operators who spent large sums on a whirlwind lease and royalty campaign. Some of the aggressives played the area for a shore line, thinking it might prove "another East Texas" field. This was proven to have been a bad guess when a test drilled 6½ miles to the northeast, near the town of Rusk, proved dry. Wood and others drilled a second test about 660 feet southwest of the discovery, which also was a dry hole. Another failure was drilled about 2½ miles to the south, and several dry holes were drilled over the county, seven in all, being abandoned during the year.

After the second test was drilled in the discovery area, and the C. & G. Oil Co.'s test near the town of Rusk, 6½ miles northeast of the discovery, proved dry, activities in the area slumped rap-

A PACKING FOR EVERY OIL INDUSTRY SERVICE
Johns-Manville
PACKINGS

Write for COMPLETE
J-M PACKING CATALOGUE
Johns-Manville
22 East 40th Street, New York City

21
HIGH PRESSURE
HAMMER WELD
TANKS



PRICED for QUICK SALE!

Same as new. Wall thickness 7/16 in.—head thickness 1¼ in. —Length 19 ft. 8 in.—Diameter 4 ft. 2 in.—11 atmosphere working pressure—22 atmosphere test pressure. Used as gas receivers in compression plant until one month ago. Must be moved from present location at once. Will sell individually or entire lot. Attractively priced for immediate sale.

2 GALVANIZED IRON BUILDINGS
Splendid condition. Heavy gauge galvanized metal throughout. One 110 ft. x 40 ft.—the other 100 ft. x 50 ft. Ceiling height 20 ft. Gable roofs supported by heavy steel fabricated trusses. Ideal for manufacturing or warehouse use. Could be dismantled and loaded on cars at reasonable figure.

500—8⅝" STANDARD DRESSER COUPLINGS
Thoroughly reconditioned and will render same service as NEW couplings. Complete with new bolts and new rubbers. Will sacrifice for prompt sale.

NOTE: We are continually dismantling refineries and plants of various types. See us for best proposition.

BROWN-STRAUSS CORP.
ESTABLISHED 1908
1402-1720 GUINOTTE AVE. KANSAS CITY, MO.

idly, companies and operators losing interest in the area, and not going to the trouble of drilling tests on acreage they had acquired during the boom. At the close of the year there was no activity in the county.

The Cayuga Discovery

The Cayuga Field, discovered by the Tide Water Oil Co. and the Texas Seaboard Oil Co., in northwest Anderson County, the fore part of March, 1934, is not appearing as a field of major importance, but did prove to be the best discovery of the year in the East Central Texas Field. There are over 40 producing wells in the field, of which 13 are gas wells. The field is practically defined in all directions, and drilling in 1935 will be devoted to inside locations. The two companies opening the field hold about 15,000 acres in the block around the well, or most of the acreage within the field. The Government issued orders that 75 wells could be drilled in the Cayuga Field during 1934, but such orders were not necessary, as the companies holding the acreage were not intent on rapid development. The Texas Pipe Line Co. connected the field with its nearby trunk line running to the Gulf Coast. The Lone Star Gas Co. is expected to connect a trunk line to the field in the early part of 1935, to take some of the product of the gas wells. This gas purchasing and distributing company tied into the Long Lake gas field, in southwestern Anderson County, and started running gas from wells in that field in December. There have been only five wells drilled in the field, with a 2½-mile extension to the northeast, drilled by the Hunt Production Co. in 1934. It too is a gas well.

Only three wells were drilled in the Long Lake Field in the year by the joint owners, Tide Water Oil Co. and Texas Seaboard Oil Co., after the field was discovered to be primarily a gas area. The Hunt Production Co.'s No. 1 Miller, in the S. Sanchez Survey No. 10, 2½ miles northeast of the nearest Long Lake producer, was completed in September, 1934, for a 50,000,000-foot gasser after plugging back to 5,281 feet from 5,350 feet. No drilling has been done on acreage between this outpost and the other producers, but it widened the gas area to a great extent, proving a valuable reservoir from which the Lone Star Gas Co. will draw a supply for cities and towns in the surrounding counties.

In Freestone County

Another discovery, of little importance so far, but which may eventually lead to the opening of an oil or gas field, was the gas discovery by Daniels Oil & Royalty Co. on the P. D. C. Ball lands in the J. I. Auguilera Survey, 3 miles south of Turlington, Freestone County. It was drilled to a total depth of 5,003 feet and plugged back to 4,865 feet making 10,000,000 feet of gas. No other test has been drilled near it to date, although one is preparing to start up about a mile west of the shut-in gasser, which may prove something for the area in 1935.

The Centerville gas producing area, Leon County, opened in 1933 by the Shell Petroleum Corp. and others in the J. Carter Survey, has not been proven for anything but gas and some distillate. The same operators brought in a gasser 4 miles to the northeast of the Beggs discovery, on the Lee farm, in the Cooper Survey, in the fore part of 1934, but no other test has been drilled near that well, which is considered to be on a structure apart from the one on which the first gasser was drilled in the area. The Lee well made the third gas producer completed in the area, one other test proving dry, and developments being stopped. No gas company has connected with these wells.

Trinity Sand Tests Dry

Two Trinity sand tests were abandoned in the district during the year, and a third is preparing to be drilled. The last test is to be put down in the Cayuga Field by the Tide Water Oil Co. and Texas Seaboard Oil Co., and will be one of the interesting tests of the year. The two abandoned tests were drilled by Peyton Brothers of Mexia and Wheelock and Collins of Corsicana. The former drilled their well on the Steubenrach lands in the Mexia Field, Limestone County. It had some good showings of oil but failed to make a producer. The latter operators drilled on the Cerf lands, in the Corsicana-Powell Field, Navarro County, but failed to pick up commercial production. It went to 6,506 feet. The Peyton Brothers test was drilled to 6,116 feet.

Henderson County

Henderson County was another favorite wildcat territory during the past year, but none of the wells drilled encountered any worthwhile showings of oil or gas. There is no active test drilling in the county at the present time. Eight holes were abandoned in the county during the year. Freestone County received eight tests during the year, one test proving a gas discovery, mentioned above. The others were all dry. Limestone County saw the abandonment of seven wildcat tests, and Navarro County received nine, all proving dry. One of these, in each county mentioned above, was a Trinity sand test. Hunt County saw the marking off of six possible producing areas when as many wildcats were abandoned.

In Palestine Area

Gulf Production Co.'s No. 1 Davey & Royall, located in the M. Rogers Survey, 7 miles southeast of Palestine, in Anderson County, created considerable excitement in November when it struck an estimated 50,000,000 feet of gas at 5,041 feet and more gas at 5,045 feet, showing some distillate, but the gas was cased off, no oil showed and the company continued to drill ahead. It is now down 5,750 feet, the company intending to carry it to the Georgetown lime, principally for geological information. Location has been made for a second test in the area, by the same company. This location is south of No. 1 and will be drilled to the Woodbine, where the gas was logged.

At around 340-50 feet the above test picked up a showing of oil in the Carrizo sand, but drilled through it. This showing, however, led to the drilling of three other shallow tests in the vicinity of the Davey and Royall test, all of which proved dry.

EAST CENTRAL AND EAST TEXAS

Completions in 1934 by Counties

County—	Comp.	Prod.	Abd.	Gas
Anderson	46	2,826	7	1
Angelina	1	0	1	0
Cherokee	15	117	11	0
Fannin	1	0	1	0
Franklin	2	0	2	0
Freestone	8	0	7	1
Gregg	1,705	102,845	23	6
Henderson	8	0	8	0
Hopkins	1	0	1	0
Hunt	6	0	6	0
Kaufman	1	0	1	0
Lamar	1	0	1	0
Leon	4	0	2	2
Limestone	7	0	7	0
Morris	3	0	3	0
Navarro	9	0	9	0
Nacogdoches	4	0	4	0
Rains	1	0	1	0
Red River	3	0	3	0
Rusk	1,323	70,453	9	5
Smith	191	10,009	9	0
Upshur	283	13,895	19	0
Van Zandt	49	1,713	11	0
Wood	3	0	3	0
Total 1934	3,675	201,959	158	13
Total 1933	2,572	159,046	141	4
Difference	1,103	42,913	17	9

Summary by Months

Month—	Comp.	Prod.	Abd.	Gas
January	249	15,517	10	0
February	251	15,387	11	1
March	252	15,412	7	2
April	253	15,069	6	1
May	328	16,523	12	0
June	357	22,179	12	2
July	319	17,323	10	1
August	383	19,780	13	1
September	339	16,756	17	2
October	395	19,018	35	3
November	260	12,081	17	0
December	289	16,914	8	0
Total 1934	3,675	201,959	158	13
Total 1933	2,572	159,046	141	4
Difference	1,103	42,913	17	9

Reversible Action for Speed
Reversible Jaws for Longer Life

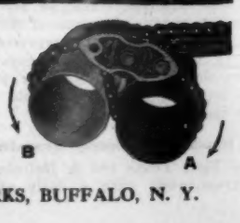
Williams' "Vulcan Boll-Weevil" gives you everything you need in a pipe tool—rapid action—durability—simplicity (only 6 parts) plus convenience. "Vulcan Boll-Weevil" is applied *on top* of the pipe. Never has to be held up—never requires the user to change his position. "Makes-Up" and "Breaks-Out" without unhooking the chain.

Proof-tested chains are positively self-releasing and interchangeable, size for size, with *all* "Vulcan" tongs.

Here's a general purpose tool that merits investigation—ask your distributor!

J. H. WILLIAMS & CO.
"The Drop-Forging People"
75 Spring Street New York

WILLIAMS
SUPERIOR DROP-FORGED TOOLS
VULCAN
BOLL-WEEVIL
REVERSIBLE TONGS



A "MAKING-UP" Engage rear teeth and push down.

B "BREAKING-OUT" Pull tong back to engage forward teeth and pull up.

WESTERN WAREHOUSE & SALES OFFICE, CHICAGO—WORKS, BUFFALO, N. Y.

Busiest Year Since 1930 in Pennsylvania Grade Fields; Deep Sand Discovery

By J. P. O'DONNELL

Drilling operations in the Pennsylvania Grade fields were more numerous in 1934 than in any year since 1930. There were 2,519 completions in 1934 and of these, 1,934 were oil wells with a total initial output of 12,450 bbls.

That increase in operations was due chiefly to the fact that the top price of Pennsylvania Grade crude for the year, $2.55, the highest since 1930, was in effect from May 1 to November 6, six months covering the most active drilling season.

The price of Pennsylvania crude was cut 25 cents on November 6 and 25 cents on December 6, but the reductions were too late in the year to affect materially the operation totals. The cuts were not unexpected as the prices of refined products failed to justify the crude prices. All refined prices with the exception of neutrals were lower on December 31, 1934, than on December 31, 1933, ranging from a half cent on motor gasoline to 9¼ cents on 25 pour bright stock.

While there is no prospect of crude prices immediately returning to their former levels, they should rise if the downward trend in stocks continues much longer. Stocks of Pennsylvania Grade crude dwindled from 5,360,000 bbls. on December 30, 1933, to 4,468,000 bbls. on December 29, 1934, a drop of nearly 17 per cent.

Air-gas repressuring, holding a solution to the secondary recovery problems of the operators in the broken sand fields, was extended considerably in the middle district. The broken sands of the Venango-Clarion district, not lending themselves so far to the water flooding successfully used in Bradford, have been found responsive to the air-gas method. With greater recovery possible at less cost, it is probable that greater drilling will take place in the Middle District in the coming year. This probability was heightened by the leasing of several thousand acres there by a large Bradford producer.

Good Well in Very Old Field

One of the best reported completions in recent years in the Venango-Clarion fields was brought in in mid-December. It was the Frampton Oil Co.'s No. 28 on the McCray farm, Petroleum Center. It pumped 40 bbls. and the production continued at that rate or slightly better for the rest of the month.

The successful completion of an Oriskany sand well in Elk district, Kanawha County, West Virginia, is expected to lead to a program of deeper drilling in the southern part of the region.

Bradford's Continued Activity

Bradford, the most active of the Pennsylvania Grade crude fields, reported more completions than all other districts combined and was second in the United States only to East Texas. Practically all the wells were drilled in proven territory, many of them for repressuring purposes.

In Southwest Pennsylvania there were no new discoveries but some fair wells were drilled in Amwell Township, Washington County, both Thirty Foot sand gas wells and Fifth sand producers. The Carnegie Natural Gas Co. opened up possibilities by drilling a well on the Alberta Iams farm to the Fifth sand where it started off at 100 bbls. a day. The Gordon Stray sand in East Finlay Township proved profitable with the largest producer being on the J. N. Clutter farm.

In Southeast Ohio, drilling was mostly in proven areas. There were some exceptions to this in Lorain County, Belmont County, extensions of the shallow drilling in Medina County and in Guernsey County. Some extensive geophysical tests have been under way in Columbiana County and one test is drilling.

While interest in West Virginia centers on the Oriskany tests now drilling the new extension of the Pike Pool in Clay district, Ritchie County, operations in the Lost Run Pool in the same district and the deepening of wells in Centre district, Gilmer County, to the Berea and Stray sands are also commanding attention. Several fair gas wells were completed, mostly in proven reserves.

Table 1 summarizes the 1934 drilling operations by fields, and Table 2 by months. The months of August and September saw the greatest activity and were attended by the best results, 394 of the 514 completions in that 60-day period being producers. Total initial production was highest in June and August, averaging 11.73 bbls. per well in June and 10.39 bbls. per well in August.

Table 3 gives a combined camparison of the fields and months.

Table 4 shows the gain in operations over year periods since 1930. The past year recorded more wells completed, greater initial production and more oil producers than any year since 1930. The number of gas wells was exceeded in 1931 and the average initial production in 1933.

TABLE 1—COMPLETIONS BY FIELDS

Field—	Comp.	Prod.	Dry	Gas
Bradford	1,336	2,361	0	1
Allegany	78	77	0	0
Venango-Clarion	79	63	6	9
Butler-Armstrong	25	37	6	3
Southwest Penna.	114	782	24	48
Southeast Ohio	377	4,551	83	66
West Virginia	510	4,574	96	242
Total 1934	2,519	12,456	215	370
Total 1933	1,650	10,305	158	284
Difference	869	2,151	57	86

TABLE 2—COMPLETIONS BY MONTHS

Month—	Comp.	Prod.	Dry	Gas	Oil
January	174	718	15	27	132
February	162	699	13	23	126
March	162	845	9	21	132
April	170	633	10	14	146
May	209	703	14	24	171
June	223	2,079	8	38	177
July	229	876	20	30	179
August	253	2,066	18	36	199
September	261	1,347	23	43	195
October	230	659	39	36	155
November	239	968	29	37	173
December	207	862	17	41	149
Ttl. 1934.	2,519	12,456	215	370	1,934
Ttl. 1933.	1,650	10,305	158	284	1,208
Difference	869	2,151	57	86	726

TABLE 3—MONTHLY COMPLETIONS BY FIELDS

Month—	Bradford	Allegany	Venango-Clarion	Butler-Armstrong	S.W. Pa.	S.E. Ohio	West Virgin'a	Total
January	95	2	5	2	13	23	34	174
February	97	5	1	2	4	23	30	162
March	98	6	5	2	8	18	25	162
April	120	2	3	0	6	15	24	170
May	132	3	5	0	4	33	32	209
June	122	7	3	2	12	29	49	223
July	132	5	11	3	11	31	36	229
August	117	11	8	5	8	52	52	253
September	127	15	7	2	16	39	55	261
October	97	7	14	4	9	41	58	230
November	100	7	11	2	12	43	64	239
December	99	8	7	1	11	30	51	207
Total	1,336	78	79	25	114	377	510	2,519

TABLE 4—COMPLETIONS 1930-34

Year—	Year	Prod.	Dry	Gas	Oil wells	Average Initial
1934	2,519	12,456	215	370	1,934	6.44
1933	1,650	10,305	158	284	1,208	8.53
1932	1,499	5,906	168	237	1,094	5.40
1931	1,522	4,111	234	557	731	5.62
1930	3,874	20,442	438	867	2,769	7.38

"LIQUID" ASSETS

—Safeguard Them!

YOUR capital stored in tanks in the form of oil deserves the surest protection you can give it.

EXPERIENCE has proved, without exception, that tanks are safe when they are OCECO Equipped.

THE OIL CONSERVATION ENGINEERING CO.

877 Addison Road CLEVELAND, OHIO

Michigan Records Biggest Year in Field Work, Production and Oil and Gas Discoveries

By PAUL A. ELLIOTT
Staff Correspondent, Michigan Fields

The year 1934 placed Michigan on a firmer basis than ever before in its 10-year history as an important oil and gas producing state through record oil and gas output, greatly increased marketing facilities and other marked advancements in all phases of the industry.

Production of about 10,600,000 bbls. of oil and about 3,000,000,000 feet of gas at an estimated value of about $11,000,000 definitely established Michigan as the second oil state east of the Mississippi River, exceeded only by Pennsylvania with indications that it will soon outstrip that oldest of oil producing states with new discoveries.

Michigan's record production of about 10,600,000 bbls. of crude oil in 1934 compared with a previous record of 7,942,000 bbls. reported by the petroleum economics division of the U. S. Bureau of Mines, Department of the Interior, for 1933.

At a stable price of $1.02 per barrel in effect in the Mount Pleasant-Midland area since September 30, 1933, the aggregate value of 1934 oil production set a new high record of more than $10,600,000. Natural gas production added at lease $300,000 while operations of half a dozen refineries resulted in further new wealth.

Until the fall months of the year, the center of drilling activity was in the Porter Pool in Midland County. Opened early in 1933, Porter experienced its greatest drilling play during the first nine months of 1934, establishing many new Michigan records.

Porter development in 1934 resulted in the establishment of several records in addition to its high potential, such as the completion of the largest single oil well, production of the greatest amount of crude from any single pool in the State, to say nothing of the new weekly and monthly initial production records.

Record Well of Year

Although the Pure Oil Co. controls the bulk of the Porter Pool and brought in many of the larger wells of the year, the Davis Oil Co.'s No. 5 Herman Neitzke well, SW NE NW Section 21-13n-1w, was recognized as the record new producer at 14,497 bbls. a day.

The Davis-Neitzke well was brought in in the last week in June, topping the Dundee at 3,364 feet, the pay sands at 3,385 feet and drilling to a total depth of 3,412 feet. It flowed 460 bbls. the first hour and increased to 600 bbls. the third hour. As a result of this and other large new completions principally near the intersection of Sections 16, 17, 20, and 21, a new monthly record of about 55,000 bbls. of new initial production was set in June, 1934. It was during that month the State's potential was boosted to 180,436 bbls. a day as of July 1, the State's all-time record to date.

Development during 1934 also resulted in the completion of a number of other large producers in Porter Township ranging from 5,000 to 10,000 bbls. a day initial.

Potential and Output

As the aggregate potential of Michigan oil fields increased, principally due to the record production of the Porter Township, Midland County, Field, which reached a maximum of 166,708 bbls. as of July 1, the Michigan Producers' Proration Committee created late in 1933 to supervise production in the various pools to meet the federal allocations was faced with an increasingly difficult task.

How well the committee functioned under the chairmanship of James C. Graves, of Saginaw, is revealed in the accompanying table showing the daily potential and the actual monthly production compared with the daily and monthly allowable figures.

Month—	Daily — Potential	Daily — Allowable	Monthly — Production	Monthly — Allowable
Jan. ...	105,127	29,000	807,216	899,000
Feb. ...	119,346	29,000	796,923	812,000
Mar. ..	115,673	29,300	849,370	908,300
Apr. ..	126,461	31,300	876,515	939,000
May ..	135,910	31,300	984,341	970,300
June ..	131,801	33,200	924,801	996,000
July ..	180,436	33,200	921,631	1,029,200
Aug. ..	179,355	33,200	946,825	1,029,200
Sept. ..	155,336	29,300	918,402	879,000
Oct. ...	161,300	29,000	908,546	899,000
Nov. ...	169,016	29,000	785,922	870,000
Dec.* ..	152,176	27,900		
Dec.† ..	152,116	28,100	‡866,023	§67,900
Ttl.‖ ..	143,500	31,754	10,566,518	11,098,900

*December 1 to 16. †December 17 to 31. ‡Total December. §Average.

Actual production of 10,566,518 bbls. on a basis of 365 days averaged 28,950 bbls. a day, compared with a federal allowable average of 30,408 bbls., demonstrating actual markets for Michigan crude averaged about 2,500 bbls. a day less than the federal allowable.

New Discoveries

New developments of 1934 set a high record in new oil and gas fields discovered matching other record activities of the past year in Michigan.

Four new oil pools, none of them developed to major proportions before the year closed, and two new gas pools, both indicating important additional reserves, were discovered during the year. In addition to the six new pools, three others, one a major natural gas field, one a new important producing stratum in a previously opened field and the third a small southeastern Michigan oil pool, were developed into recognized pools after late 1933 discoveries.

Of outstanding importance as the year closed were the two new gas pools, one in Hinton Township, Mecosta County, and the other extending for several miles between Millbrook Township, Mecosta County and Belvidere Township, Montcalm County, both in Central Michigan.

Columbia Oil & Gas Co. about May 15 brought in the No. 1 Albert J. Dethmers, SW SE NW Section 23-13n-8w, Hinton-Mecosta, with an open flow capacity of about 7,500,000 feet of gas daily in the Michigan stray sands topped at 1,308 feet and drilled to 1,312 feet. It is located about 10 miles southeast of the Austin Township, Mecosta County Field, developed into one of the largest gas producing areas in the State during 1934.

During the last week of the year the Columbia company brought in a second and slightly larger gasser making 8,600,000 feet daily potential on the Arnett lease, C NW SE Section 23.

Old Dutch Oil & Gas Co., of Muskegon, about July 20, opened the second new Central Michigan gas field of 1934, with completion of the No. 1 Forgar, NE SE NE Section 11-12n-7w, Belvidere Township, Montcalm County, as a 6,000,000-foot gasser in the Michigan stray sands. The Forgar well, which topped the Michigan sands at 1,248 feet, flowed at the rate of 4,500,000 feet a day when drilled 7 feet in to 1,255 feet. Three feet more of later drilling increased the flow to 6,000,000 feet a day at 1,258 feet.

F. Irwin Bryan and Harry T. Martin extended this pool 2 miles north when their No. 1 Virgil V. and Mina I. Sheets test, NW SE NW Section 35-13n-7w, Millbrook Township, Mecosta County, came in for an initial open flow capacity of 2,000,000 feet a day later doubled by deepening 6 feet.

Michigan Exploration Co.'s No. 1 Byron Youmans, C SE SE Section 34-13n-7w, also Millbrook Township, further proved the new territory as of major importance when it was brought in about December 10 with an open flow capacity of 7,000,000 feet a day at a total depth of 1,274 feet on a location 2 miles north and 1 mile southwest of the Bryan and Martin Sheets well.

New Pool in Isabella

One of the first new oil pools of the year was opened by the McClanahan Oil Co. by completions of its No. 1 Stanley Demski, SE SE SE Section 28-15n-3w, Denver Township, Isabella County, with an initial flow of 60 bbls. a day from the Dundee topped at 3,550 feet and striking the pay at 3,620 feet. It is located about 2 miles east of the Leaton Pool in the same township and about midway between the Leaton and Chippewa Township Pools.

The McClanahan company further proved the territory October 20 with the completion of the Maria T. Sweeney, NE NW NE Section 33, about a mile south of the Demski well with an initial flow of 600 bbls. a day after acid treatment.

The Wittmer company brought in the first new Isabella County Pool about January 1 when the No. 1 John McReavy, E SW Section 12-15n4w, Isabella Township, made 65 bbls. initial in the Dundee pay sands on a location 1½ miles east of the village of Rosebush and about half way between the Vernon and Leaton Pools, both of which also were discovered by the Wittmer company.

W. Hunter Atha's No. 1 Thomas Moran, E SE Section 28-13n-1e, located about 5 miles east of the big Porter Township, Midland County, Pool, opened a prospective new Midland County pool about December 20 when it was increased from a natural 60-bbl. well in the Dundee to 300 bbls. a day by acid treatment. Dundee limestone was topped at 3,408 feet and the hole drilled to 3,480 feet.

Oil in Gladwin County

What was considered the most interesting if not the most important new oil development of the year was M. F. Whitehill's No. 1 Omer Kinter, C S NW NW Section 11-17n-2w, Beaverton Township, Gladwin County, which came in about October 20 for an initial of 60 bbls. a day in Dundee sands encountered at about 300 feet deeper than in any other Central Michigan Field.

Dundee was topped at 3,969 feet and the well drilled only 1 foot in before it started flowing. It was still flowing about 40 bbls. a day by heads on January 1 without further development although deepening was being considered.

The Kintner well is believed to indicate a new northwest-southeast trend about 15 to 20 miles northeast and parallel to the Porter, Jasper, Chippewa, Vernon and Leaton Pool trend in Central Michigan. A similar parallel trend of gas pools also was indicated in 1934 by the Belvidere Township, Montcalm gasser, the Millbrook Township, Mecosta County gassers and several other smaller wildcat gassers in Richland and Home Townships of Montcalm County, and Morton and Martiny Townships of Mecosta County. The Gladwin trend is expected to extend into north Midland County, Mount Haley Township, and possibly in a northwest direction into Clare and Roscommon Counties.

Mr. Whitehill has rigged up for a second well on the Kintner lease, part of a block of about 4,000 acres in the vicinity 1 mile west of the village of Beaverton. He also controls another 12,000 acres in the county.

When the McClanahan Oil Co. drilled its No. 1 Frank and Joseph Heintz, NW NW NW Section 24-22n-1e, Ogemaw Township, Ogemaw County, into the Dundee pay sands about February 20, for an initial of 10 bbls. a day several miles northwest of the West Branch Township upper Traverse Pool another new and more important stratum had been opened in this area 50 miles north of the Porter Pool. Dundee was topped at 2,714 feet and pay sands at intervals from 2,739 feet to 2,814 feet. The well swabbed 70 bbls. a day after acid treatment.

An important feature of the new Dundee drilling which made the Ogemaw territory one of the most active toward the close of the year is the great depth of sand, 150 feet to water and expected long life of the wells on the pump.

Berea Discoveries

Two or three new Berea wells completed in Oregon Township, Lapeer County, during 1934, following its discovery in November, 1933, advanced it into the class of recognized fields though small.

W. C. Sowell's No. 1 Max and Ann Kohler, NW SE SW Section 4-8n-9w, Oregon-Lapeer, made 30 bbls. a day initial topping the Berea at 1,408 feet and drilling 2 feet in to 1,410 feet early in June. The field had been opened by George Henry Flynn who struck oil in commercial quantities in his No. 1 Herbert Branick, in Section 9, Oregon Township. Four Lapeer wells were rated good for 20 bbls. a day on January 1, 1935.

The Austin Township, Mecosta County gas pool also was developed into a field of major importance during 1934 with new wells aggregating more than 100,000,000 cubic feet a day open flow as of January 1 and resulting in the laying of a new 52-mile pipe line at a cost of about $500,000 by the American-Michigan Pipe Line Co. to serve Muskegon and Muskegon Heights with natural gas.

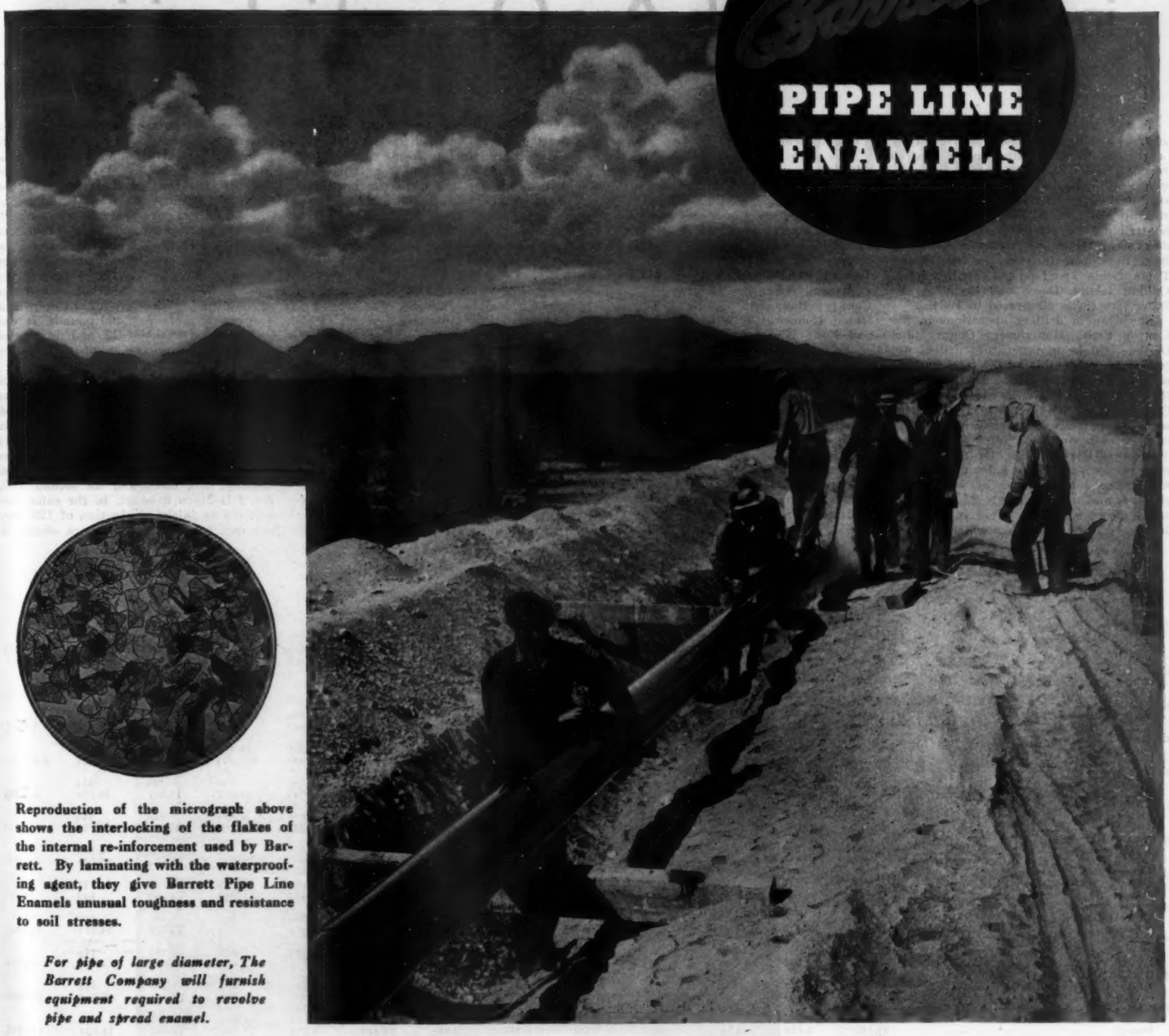
These new pool developments comprise Michigan's record year in new discoveries.

MICHIGAN FIELD
Summary by Counties 1934

County—	Comp.	Prod.	Dry	Gas
Midland	220	196,497	19	9
Isabella	93	5,250	24	33
Ogemaw	31	2,737	8	6
Oceana	15	696	6	0
Montcalm	16	756	7	6
Muskegon	5	60	1	2
Saginaw	10	15	8	0
Lapeer	3	57	4	0
Shiawassee	2	0	2	0
St. Clair	3	0	3	0
Allegan	1	0	1	0
Monroe	1	0	1	0
Mecosta	19	0	8	11
Osceola	4	0	4	0
Orenac	3	0	3	0
Gratiot	5	0	4	1
Clare	2	0	2	0
Oakland	1	0	1	0
Bay	1	0	1	0
Wayne	1	0	1	0
Total 1934	441	205,978	102	59
Total 1933	296	150,086	67	11
Difference	145	55,892	41	48

Barrett

PIPE LINE ENAMELS



Reproduction of the micrograph above shows the interlocking of the flakes of the internal re-inforcement used by Barrett. By laminating with the waterproofing agent, they give Barrett Pipe Line Enamels unusual toughness and resistance to soil stresses.

For pipe of large diameter, The Barrett Company will furnish equipment required to revolve pipe and spread enamel.

Laminated structure gives unique strength and toughness to resist soil stresses

Interlocking flakes of a special non-porous dielectric reinforcement give Barrett Pipe Line Enamels a laminated structure which increases normal strength and resistance to soil stresses. Besides adding resistance to pressure deformation, this unique Barrett flake-type filler supplies greater toughness and flexibility to the coating, and reduces slide and sag in application and service. And because a smaller amount of the filler is required than when the customary ground fillers are used, the proportion of water-resistant coal-tar pitch in Barrett Pipe Line Enamel is proportionally increased. For complete information on protective coatings to match right of way conditions, phone, write or wire.

THE BARRETT COMPANY, 40 RECTOR STREET, NEW YORK, N. Y.

Gulf Coast Scores New Yearly Production Peak in 1934; Big Pools Are Opened in Louisiana

By F. L. SINGLETON
Gulf Coast Bureau, The Oil and Gas Journal

A new peak production year was registered on the Gulf Coast during 1934, when the total output for the district reached 81,510,335 bbls., which is an increase of 5,366,607 bbls. over the previous peak year of 1933, when the total ran up to 76,143,728 bbls. The increase is attributed largely to Coastal Louisiana, due to several of the newer fields having been developed into major importance. These fields include Leesville, Iowa, Caillou Island, Bosco and Roanoke, the latter two fields discovered in 1934.

The drop in drilling operations in the Conroe Field, Montgomery County, due to the field being practically drilled up, reflected considerably on the total number of wells completed in the district during the year. Only 182 wells were drilled in Conroe, compared to 615 in 1933. There were 1,608 wells completed in the district, with a combined rated initial production of 681,127 bbls. Of these 1,010 were oil wells, 527 dry holes and 71 gas wells. The total number of wells completed is an increase of only 24 over 1933 and a decrease in the rated initial production of 739,468 bbls., which is also the result of a decline in activity in the Conroe Field.

The new pools included Splendora, Montgomery County; Van Vleck, Matagorda County; Vanderbilt, Jackson County; Tomoconnor, Refugio County; Kittrell, Houston County; San Felipe, Waller County; Fordtran, Victoria County; Old Ocean, Brazoria County; Eureka Heights, Harris County; Port Lavaca, Calhoun County; Dickinson, Galveston County; Hastings, Brazoria County; Bosco, Acadia, St. Landry Parishes; Roanoke, Jefferson Davis Parish, and Four Isle, Terrebonne Parish.

Bosco a Major Field

Due to the fact that the majority of the new fields were discovered in the last four months of the year, there has not been time enough for much development, and very little can be said as to how large these new pools will become. So far the Bosco Field, located at the juncture of Acadia, St. Landry and Lafayette Parishes, Louisiana, discovered in June by Superior Oil Producing Co.'s No. 1 Hermandes in Section 34-8s-3e, has proven to be the major discovery for the year. The field has a total of 22 oil wells producing from various horizons from 7,850 to 8,900 feet. It has been defined by dry holes, to the northwest, north, northeast, east and southwest, and at the present time the producing area extends approximately 2 miles east and west and the same distance north and south. No. 1 Hermandes, the discovery well, was drilled on a block of approximately 7,000 acres, which had been obtained from the Pure Oil Co., which retained a one-half working interest in the block. The well came in for an initial production of 829 bbls. in 24 hours through a twelve-sixty-fourths inch choke with tubing pressure 1,360 pounds. It was drilled to a total depth of 8,916 feet and production was obtained after the operators had perforated the 7-inch casing from 7,845-50 feet, which was set in the Frio sand at 8,830 feet. Outlet for production from the field was provided by Pure Oil Co., which laid an 8-inch line to Gueydan, in Vermillion Parish, a distance of 32 miles.

Two of the most promising discoveries were opened in the northeastern part of Brazoria County, and the Dickinson prospect in Galveston County. Stanolind Oil & Gas Co.'s No. 1 J. W. Surface, located in the northeastern part of Brazoria County, on what is known as the Hastings prospect in the W. T. Hughes Survey No. 2, found production from 15 feet of Marginulina sand from 5,975-90 feet and was completed for an initial production of 120 bbls. per day through a three-sixteenths inch choke with a tubing pressure of 2,150 pounds and casing pressure 2,400 pounds. It was discovered December 22 and is located several miles northeast of the Manvel Field.

The Dickinson prospect, Galveston County, which has been looked upon as a proven field, ever since Humble Oil & Refining Co.'s No. 1 Maco Stewart, in the John Sellers Survey, blew out in August, and was destroyed by fire, was proven productive, when Humble Oil & Refining Co. completed its second well, No. 1-B Maco Stewart, in the same survey, for an initial production of 129 bbls. per day from a plugged back depth of

GULF COAST
Texas
(UPPER DISTRICT)
Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
ALLEN:													
Daily average	10	10	10	10	10	10	10	.....	.....	6	10	15	
Month	312	280	315	300	310	303	313	.....	.....	188	302	465	3,088
ARRIOLA:													
Daily average	1,085	1,171	1,588	1,652	1,746	2,085	1,344	1,014	892	990	895	857	
Month	33,728	32,788	49,234	49,563	54,123	62,447	41,660	31,431	26,767	30,691	26,848	26,567	465,847
BARBERS HILL:													
Daily average	17,287	18,253	17,744	17,530	18,400	17,960	19,103	20,031	20,203	19,467	19,953	19,799	
Month	535,885	511,080	550,060	525,911	570,403	538,805	592,195	620,964	606.093	603,474	598,594	613,769	6,866,933
BATSON:													
Daily average	550	567	603	624	646	656	667	530	625	615	664	654	
Month	17,056	15,878	18,699	18,714	20,024	19,675	20,679	16,437	18,743	19,063	19,922	20,274	225,164
BIG CREEK:													
Daily average	941	805	779	943	1,130	1,445	1,100	1,093	1,008	897	855	816	
Month	29,175	22,541	24,145	28,281	35,028	43,348	34,102	33,876	30,243	27,809	25,644	26,226	360,416
BLUE RIDGE:													
Daily average	725	709	831	880	946	725	795	896	933	861	880	1,059	
Month	22,478	19,854	25,755	26,404	29,330	21,754	24,640	27,779	27,987	26,694	26,401	32,829	311,905
BRENHAM:													
Daily average	31	35	29	29	27	27	25	22	22	19	16	28	
Month	966	980	902	872	840	812	778	679	661	586	482	868	9,423
BOLING:													
Daily average	330	315	337	342	355	324	311	502	512	406	385	463	
Month	10,232	8,823	10,444	10,254	11,000	10,016	9,642	18,607	15,364	12,589	11,547	14,353	142,931
BUCKEYE:													
Daily average	3	67	194	296	328	258	259	258	294	235	165	110	
Month	99	1,873	6,009	8,884	10,167	7,744	8,024	7,993	8,815	7,282	4,954	3,410	75,254
CLAY CREEK:													
Daily average	696	708	716	760	695	731	713	712	700	697	795	823	
Month	21,571	19,821	22,201	22,803	21,548	21,927	22,104	22,077	21,005	21,604	23,846	25,513	266,020
CLEVELAND:													
Daily average	438	236	155	140	127	122	619	788	1,144	1,060	493	404	
Month	13,587	6,610	4,810	4,202	3,934	3,663	19,188	24,423	34,321	32,863	14,792	12,524	174,917
CONROE:													
Daily average	52,867	48,464	48,227	50,045	53,099	52,616	47,519	47,555	47,446	38,108	37,754	40,065	
Month	1,638,889	1,356,995	1,495,026	1,501,341	1,646,068	1,578,486	1,473,086	1,474,201	1,423,374	1,181,344	1,132,619	1,242,015	17,143,444
DAMON MOUND:													
Daily average	717	705	623	672	644	605	540	536	498	552	554	679	
Month	22,531	19,742	19,310	20,157	19,967	18,145	16,738	16,620	14,946	17,114	16,623	21,049	222,932
DANBURY:													
Daily average	33	27	24	18	.....	.....	11	.....	.....	.....	.....	.....	.....
Month	1,025	753	759	543	.....	.....	332	.....	.....	.....	.....	.....	3,403
DICKINSON:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40	74	
Month	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,196	2,294	3,490
ESPERSON:													
Daily average	863	1,164	1,255	1,314	1,244	1,245	1,389	1,332	1,435	1,376	1,387	1,360	
Month	26,756	32,590	38,902	39,423	38,561	37,347	43,058	41,296	43,046	42,658	41,613	42,160	467,410
EUREKA:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	
Month	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	177	.....	177
FANNETT:													
Daily average	459	324	474	460	749	722	617	574	498	481	511	502	
Month	14,235	9,075	14,697	13,797	23,215	21,664	19,130	17,790	14,944	14,914	15,331	15,562	194,264
GOOSE CREEK:													
Daily average	3,281	3,189	3,367	3,579	3,398	3,627	3,591	3,367	3,259	3,229	3,222	3,188	
Month	101,704	89,294	104,376	107,372	105,342	103,806	111,325	104,378	97,771	100,097	96,665	98,828	1,225,952
HANKAMER:													
Daily average	1,000	1,000	1,000	998	993	1,002	1,003	1,000	1,000	1,000	1,100	1,035	
Month	31,009	28,004	30,992	29,944	30,786	30,063	31,097	31,004	30,002	31,005	32,994	32,082	368,982
HIGH ISLAND:													
Daily average	6,475	7,372	7,635	7,584	7,516	7,502	7,798	9,222	8,926	6,837	6,840	7,132	
Month	200,732	206,420	236,688	227,516	232,994	225,063	241,739	285,856	267,771	211,942	205,203	221,092	2,763,045
HOCKLEY:													
Daily average	13	10	9	9	8	9	6	6	6	6	7	4	
Month	403	300	282	273	250	272	186	186	181	183	207	124	2,852
HULL:													
Daily average	8,848	10,541	10,148	9,785	10,408	9,496	10,723	10,555	10,457	8,997	7,593	7,300	
Month	284,327	295,143	314,585	293,547	322,645	284,876	332,416	327,201	313,706	278,119	227,795	226,300	3,495,660

(Continued on Next Page)

MANY NEW UNITS HAVE ADDED TO KELLOGG EXPERIENCE

During the past two or three years, when markets and products of refineries have changed so rapidly, The M. W. Kellogg Company has continued its program of research and has added to its experience by the building of many new units to meet the new conditions, both in this country and abroad.

KELLOGG

THE M. W. KELLOGG COMPANY · 225 BROADWAY, NEW YORK

Los Angeles: 1031 South Broadway · San Francisco: 200 Bush St. · Tulsa: Philtower Building

Kellogg Products include: Cross, Holmes-Manley, de Florez and Tube and Tank Cracking Units, Absorption Plants and Pipe Stills, de Florez Temperature Control. Pressure Vessels for the Power, Refinery and Chemical Industries. Power Plant and Industrial Piping. Pacific Hot Oil Pumps, Radial Brick Chimneys. Plastic Refractories.

Licensing Agent for Gasoline Products Company, Inc. Licenses granted under United States and Foreign Patents for: Cross-de-Florez · Holmes-Manley · Tube and Tank Cracking Processes and Combination Cracking Units · European Representatives: Compagnie Technique des Petroles · 134 Boulevard Haussmann · Paris, France.

ONLY 1 Brand of ROTARY LINES bears a SILVER STRAND

. . . THE MARK OF SUPERIOR QUALITY

As exclusive as the identifying "Silver Strand" is the superior performance and economy of Monitor Silver Strand Rotary Lines. Made of the highest quality steel, they are brutally strong, to handle the toughest kind of jobs—while their great abrasion resisting qualities assure far longer life. If you are interested in lower operating costs and greater efficiency—if you want true and proved value—it will pay you to learn in detail what the "Silver Strand" means. Take advantage of the money-saving consultation service offered by our distributors and branch offices.

AMERICAN STEEL & WIRE COMPANY

MONITOR

SILVER STRAND ROTARY LINES

AMERICAN STEEL & WIRE COMPANY

208 SOUTH LA SALLE STREET • • CHICAGO

Offices in All Principal Cities

United States Steel Corporation Subsidiary

8,025 feet in the Frio sand. It was drilled to a total depth of 8,070 feet, but was plugged back after it had encountered salt water. The producing limits of the area, were extended a half mile northeast by the completion of Pure Oil Co.'s No. 1 Shelor, in the B.B.B.&C. Survey, which was drilled simultaneously with Humble Oil & Refining Co.'s test. It came in for an initial production of 20 bbls. of distillate per day through a ten-sixteenths inch choke, with tubing pressure 2,600 pounds and casing pressure 2,600 pounds from a total depth of 8,016 feet.

New Pool in Calhoun County

One mile north of Port Lavaca, Calhoun County, Steen Drilling Co.'s No. 1 Stanzel in the A. Esparza Survey, opened the first production for the county, when it was completed for a distillate producer from a total depth of 6,168 feet, bottomed in the Frio sand. The discovery was made November 26, and to date no other locations have been announced for the area. The well is estimated good for 151 bbls. of distillate per day, and when first completed, casing pressure was 1,750 pounds and working pressure 500 pounds. The nearest production to the test is the Keeran Field, Victoria County, located 10 miles northwest.

Frio Sand Discoveries

Of the many Frio sand discoveries made during the year, two of the most important were in the Old Ocean district, western Brazoria County, and at Port Lavaca, Calhoun County. Harrison and Abercrombie's No. 1 Bernard River Land & Development Co., located in the Charles Breen Survey, Brazoria County, was completed November 8 in 21 feet of Frio sand bottomed at 8,651 feet, for an initial production of 550 bbls. of 68 gravity distillate per day through a three-sixteenths inch choke with tubing pressure 1,650 pounds.

Eureka Heights Discovery

The Cockfield sand was found productive on the Eureka Heights, another geophysical prospect, located on the northwest outskirts of Houston, Harris County, by the completion of C. B. Bunte, Inc.'s No. 1 Laura Lackner, in the H. Reinermann Survey, which was completed November 21, for an estimated 25 bbls. of high gravity distillate and an estimated 8,500,000 feet of gas daily through a one-eighth inch choke. It is producing from 37 feet of Cockfield sand bottomed at 7,686 feet.

Gillis, La., Pool

Another promising discovery is the Gillis area, Calcasieu Parish, Louisiana, which was opened October 15 by Union Sulphur Co.'s No. 2 Barbe, located in Section 11-9s-8w. It was completed in the Marginulina sand topped at 6,750 feet and bottomed at 6,768 feet for an initial production of 12 bbls. of 38 gravity oil per hour of which 75 per cent was salt water, but later production increased to around 890 bbls. of net oil per day, and the salt water content decreased to approximately 25 per cent. The area was recently extended a half mile northeast and 1 mile south by the completion of the same company's No. 1 State, which was completed for an initial production of 1,500 bbls. per day through a three-eighths inch choke, with tubing pressure 1,010 pounds, from a total depth of 6,759 feet. Due south of the discovery, Fohs Oil Co.'s No. 1 O. H. Castle extended the producing limits in that direction by testing for a gas well at a total depth of 6,917 feet. It showed several joints of oil on a drill stem test, and is expected to make a producer after it is cored a few feet deeper.

Houston County Discovery

In the southern part of Houston County, the Carrizo sand was proven productive by the completion of Boone Brothers' No. 1 Trinity State Bank, in the Charles McEllis Survey, which was completed September 14 for an initial production of 330 bbls. per day from sand topped at 2,017 feet, and bottomed at 2,036 feet. The discovery was drilled on a small block, leaving much acreage open for development, which was immediately leased up by independent operators. Within a month's time, the producing limits of the field was confined to a small area, by the completion of dry holes in every direction from the discovery. To date four oil wells have been completed in the area, two of which were by the Humble Oil & Refining Co. and two by Boone Brothers, these, however, have gone dead since the burning well of Humble Oil & Refining Co., No. 3 Shaw, killed itself by sanding up.

On San Felipe Dome

The first commercial production for

Texas (Continued)

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
HUMBLE:													
Daily average	3,394	3,456	3,394	3,411	3,228	3,275	3,264	3,255	3,273	3,836	4,076	3,472	
Month	105,223	96,773	105,210	102,335	100,071	98,254	101,181	100,909	98,194	118,912	122,276	107,632	1,256,970
LIVINGSTON:													
Daily average	1,658	1,766	1,765	1,738	2,074	2,073	2,087	2,009	2,326	2,079	1,854	2,075	
Month	63,414	49,453	54,719	52,143	64,298	62,193	64,699	62,275	69,785	64,444	55,623	64,325	727,371
LOST LAKE:													
Daily average	195	198	200	190	192	185	155	127	146	183	188	226	
Month	6,039	5,540	6,205	5,697	5,953	5,547	4,803	3,932	4,375	5,678	5,637	7,006	66,412
KITTRELL:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	316	270	335	408	
Month	.....	.....	.....	.....	.....	.....	.....	.....	9,480	8,374	9,825	12,648	40,327
LOUISE:													
Daily average	150	298	368	368	321	485	572	531	666	700	740	684	
Month	4,644	8,348	11,401	11,047	9,956	14,556	17,737	16,466	19,983	21,703	22,202	21,204	179,247
MANVEL:													
Daily average	1,774	1,960	1,989	1,989	1,985	2,011	2,326	3,359	3,532	3,981	4,091	4,397	
Month	54,996	54,886	61,650	59,663	61,532	60,326	72,102	104,124	105,962	123,408	122,731	136,307	1,017,687
MARKHAM:													
Daily average	703	597	599	684	1,182	1,271	1,350	1,212	1,241	1,379	1,400	1,393	
Month	21,943	16,720	18,571	20,523	36,643	38,132	41,847	37,577	40,232	42,746	42,001	43,183	400,118
MYKAWA:													
Daily average	167	127	537	612	394	398	427	356	318	316	602	853	
Month	5,177	3,559	16,645	18,355	12,212	11,938	13,235	11,039	9,536	9,799	18,056	26,443	155,994
NASH:													
Daily average	42	40	33	37	31	37	30	27	29	41	34	32	
Month	1,306	1,124	1,025	1,114	960	1,106	931	834	873	1,276	1,022	992	12,563
NORTH DAYTON:													
Daily average	138	134	133	128	111	142	157	153	170	149	163	187	
Month	4,275	3,748	4,120	3,836	3,443	4,264	4,869	4,747	5,094	4,614	4,878	5,797	53,685
OLD OCEAN:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	288	331	
Month	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,643	10,261	18,904
ORANGE:													
Daily average	707	773	786	870	836	823	811	516	320	843	811	747	
Month	21,917	21,640	24,370	26,105	25,914	24,691	25,139	15,992	24,605	26,131	24,327	23,157	283,988
ORCHARD:													
Daily average	1,496	1,383	1,282	1,182	1,051	1,395	1,303	1,314	1,316	1,166	1,110	1,001	
Month	46,373	38,720	39,745	35,458	32,584	41,852	40,397	40,731	39,475	36,148	33,305	31,031	455,819
PIERCE JUNCTION:													
Daily average	3,324	3,343	3,330	3,304	3,180	2,546	3,071	3,192	2,943	3,949	3,673	3,405	
Month	103,046	93,609	103,235	99,117	98,576	76,377	95,197	98,955	88,298	122,414	110,185	105,555	1,194,564
PLEDGER:													
Daily average	51	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Month	1,585	369	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,954
PORT NECHES:													
Daily average	1,082	1,421	1,619	1,638	1,568	1,463	1,401	1,487	1,953	1,763	1,721	1,554	
Month	33,540	39,781	50,185	49,143	48,610	43,889	43,434	46,093	58,582	54,658	51,631	48,174	567,719
RACCOON BEND:													
Daily average	3,502	3,532	3,506	3,664	4,350	4,370	4,212	4,411	4,303	4,198	4,230	4,377	
Month	108,563	98,891	108,681	109,917	134,848	131,101	130,570	136,746	129,094	130,136	126,808	135,687	1,480,042
ROCKLAND:													
Daily average	10	10	10	7	7	5	10	10	10	10	10	11	
Month	309	296	315	213	218	154	314	316	302	312	301	341	3,391
RYE:													
Daily average	.....	.....	.....	45	16	17	40	40	45	40	45	50	
Month	.....	.....	.....	1,343	493	512	1,241	1,234	1,344	1,241	1,353	1,550	10,311
SAN FELIPE:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	84	63	
Month	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,521	1,953	4,474
SARATOGA:													
Daily average	785	775	802	861	866	871	833	786	756	712	727	734	
Month	24,327	21,709	24,861	25,833	26,844	26,134	25,819	24,363	22,683	22,071	21,808	22,754	259,216
SOUR LAKE:													
Daily average	997	1,038	1,045	1,107	964	1,116	1,159	1,311	1,379	1,662	1,847	1,670	
Month	30,900	29,060	32,390	33,207	29,886	33,476	35,929	40,644	41,367	51,519	55,411	51,770	465,559
SOUTH LIBERTY:													
Daily average	549	523	526	559	564	493	495	516	523	480	475	493	
Month	17,017	14,927	16,304	16,774	17,480	14,938	15,343	15,994	16,148	14,883	14,262	15,438	189,493
SPINDLETOP:													
Daily average	3,377	3,371	3,455	3,439	3,359	3,435	3,419	2,789	2,952	3,082	2,916	2,789	
Month	104,683	94,384	107,105	103,172	104,133	103,053	105,989	86,457	78,552	95,545	87,478	86,459	1,152,010
SUGARLAND:													
Daily average	5,954	6,049	5,923	6,039	6,007	6,123	6,012	5,998	6,009	6,012	6,004	6,024	
Month	184,574	169,376	183,610	181,164	186,216	183,687	186,375	185,942	180,274	186,369	180,126	186,744	2,194,457
THOMPSON:													
Daily average	11,711	11,662	11,708	11,752	11,785	11,899	11,681	11,811	11,803	9,510	11,845	11,665	
Month	363,042	326,533	362,954	352,556	365,334	356,974	362,103	366,147	354,091	294,814	349,344	361,615	4,215,513
TOMBALL:													
Daily average	1,695	2,244	2,355	2,359	2,507	2,325	2,552	2,766	2,841	3,059	3,785	4,033	
Month	52,549	62,835	73,011	70,774	77,719	69,746	79,116	85,742	85,225	94,835	113,547	125,023	990,112
VAN VLECK:													
Daily average	.....	.....	.....	45	38	.....	.....	40	33	174	72	.....	
Month	.....	.....	.....	1,381	1,179	.....	.....	1,234	996	5,397	2,166	.....	12,353
WEST COLUMBIA:													
Daily average	2,599	2,598	2,646	2,948	3,622	3,955	2,910	2,910	2,880	2,726	2,791	2,760	
Month	80,564	72,740	82,020	88,439	112,283	88,649	90,206	90,214	86,394	84,502	83,727	85,560	1,045,299
Total daily average	142,717	142,993	143,759	146,647	152,707	150,896	148,409	151,019	152,056	138,063	139,893	141,826	
Total month	4,446,710	4,003,865	4,456,513	4,399,320	4,733,920	4,526,796	4,600,681	4,681,589	4,561,684	4,280,184	4,194,939	4,396,913	53,283,114

(Continued on Next Page)

the San Felipe Dome, Waller County, was developed by Capps and Sloan's No. 1 Vaughn, in the John McFarland Survey, when it was first completed for an estimated 12 bbls. of fluid per hour of which 75 per cent was salt water from sand at 2,959-65 feet. It was later drilled deeper to 2,969 feet and came in for an estimated 500-bbl. well. Production had fallen to approximately 12 bbls. per day by the close of the year.

The dome was discovered in 1927 by Gulf Production Co., by the use of seismograph, and after the company had drilled its No. 1 Jackson, abandoned at 3,307 feet, the company subleased its acreage to the Kirby Petroleum Co. and Empire Gas & Fuel Co., which agreed to develop the dome at their own expense for a half interest in any production. Eleven wells were drilled on and around the dome before production was developed.

TEXAS

Summary of Field Operations, 1934

Field—	Comp.	Prod.	Abd.	Gas
Ace	4	8	2	2
Arriola	6	1,959	2	1
Barbers Hill	65	34,914	9	1
Batson	13	305	1	0
Big Creek	8	579	4	0
Blue Ridge	5	1,400	2	0
Boling	4	1,380	1	0
Buckeye	4	0	4	0
Clay Creek	11	1,932	3	0
Cleveland	9	3,292	4	0
Coletto Creek	16	1,160	7	3
Conroe	182	224,506	12	4
Damon Mound	4	234	0	0
Danbury	3	0	3	0
Dickinson	3	145	1	0
Esperson	13	1,675	1	1
Eureka	1	0	0	1
Fannett	3	120	2	0
Garwood	2	160	1	0
Goose Creek	23	3,055	13	0
Greta	119	28,847	12	11
Hankamer	4	1,704	2	1
Hastings	1	350	0	0
High Island	17	3,750	5	0
Hockley	1	0	1	0
Hull	78	32,180	13	0
Humble	6	40	5	0
Keeran	3	500	1	0
Kittrell	14	3,384	10	0
Liberty	8	252	4	0
Livingston	37	9,487	14	2
Louise	15	2,308	7	1
Manvel	54	19,639	19	1
McFaddin-O'Connor	15	1,319	7	3
Markham	9	1,920	5	0
Mykawa	7	2,330	1	0
North Dayton	1	0	1	0
Old Ocean	1	504	0	0
Orange	7	300	2	0
Orchard	3	1,966	1	0
Pierce Junction	20	7,134	5	2
Pledger	7	0	4	3
Port Lavaca	1	151	0	0
Port Neches	8	1,116	2	1
Raccoon Bend	25	14,885	8	1
Refugio	22	4,024	1	6
San Felipe	2	500	1	0
Saratoga	21	894	6	0
Sour Lake	15	1,979	6	1
Spindletop	2	356	0	0
Splendora	3	0	2	1
Stratton Ridge	2	0	2	0
Sugarland	1	0	1	0
Thompson	37	23,336	5	0
Tomball	111	43,342	11	19
Tomoconnor	2	1,344	0	0
Vanderbilt	4	500	2	1
Van Vleck	2	368	0	0
West Columbia	2	700	2	0
Miscellaneous	170	0	169	1
Total 1934	1,237	488,349	411	70
Total 1933	1,359	1,342,716	303	26
Difference	122	853,987	108	44

LOUISIANA

	Comp.	Prod.	Dry	Gas
Bay Junop	2	0	2	0
Bay St. Elaine	5	38	4	0
Black Bayou	5	1,626	1	0
Bosco	29	18,722	7	0
Caillou Island	6	11,868	0	0
Cameron Meadows	13	3,664	5	0
Choctaw	3	3,100	0	0
Dog Lake	3	0	3	0
Darrow	1	58	0	0
Edgerly	7	2,200	5	0
Four Isle	3	2,000	2	0
Garden Island	2	0	1	1
Gillis	3	1,920	1	0
Gueydan	1	0	1	0
Hackberry	21	8,512	6	0
Iowa	41	35,260	4	0
Jennings	6	798	0	0
Lake Barre	10	9,767	4	0
Lake Hermitage	1	20	0	0
Lake Pelto	2	0	2	0
Lake Washington	4	0	4	0
Leesville	69	62,055	6	0
Lockport	20	3,510	7	1
New Iberia	4	720	3	0
Port Barre	14	5,956	3	0
Roanoke	4	1,828	2	0
Sorrento	2	0	2	0
Starks	5	1,320	4	0
Sulphur	25	9,979	4	0
Vinton	31	3,493	6	1
White Castle	1	0	1	0
Miscellaneous	28	0	28	0
Total 1934	371	192,398	118	3
Total 1933	225	77,879	123	2
Difference	146	114,519	5	1
Total Gulf Coast, 1934	1,608	680,767	529	71
1933	1,584	1,420,595	426	28
Difference	24	739,468	102	43

COMPLETIONS BY MONTHS

Month—	Comp.	Prod.	Abd	Gas
January	145	76,103	36	7
February	105	38,972	46	6
March	133	63,324	44	4
April	108	54,185	24	4
May	165	82,848	56	4
June	136	54,278	54	5
July	174	64,501	59	2
August	131	53,102	42	6
September	126	43,645	43	6
October	162	61,201	48	15
November	111	47,230	33	6
December	118	41,738	42	6
Total 1934	1,608	681,127	527	71

Four Isle Dome

The Four Isle Dome in the coastal marshes of Terrebonne Parish, Louisiana, was proven productive November 18, when Texas Co.'s No. 4 State, Section 24-21-16, was completed, flowing at the rate of 2,000 bbls. of 44.5 gravity oil per day through a one-half inch tubing choke, with tubing pressure 910 pounds. It is producing from sand topped at 5,611 feet and bottomed at 5,639 feet, the total depth.

The dome is one of a group of eight salt domes, within a radius of 50 miles, which have been developed simultaneously by the Texas Co. on its extensive exploration program launched in 1929, after the company had agreed to take an operating contract with the Louisiana Land & Exploration Co. to develop its properties.

Roanoke a Very Deep Field

One of the deepest discoveries was the Roanoke Field, Jefferson Davis Parish, Louisiana, which was proved by Shell Petroleum Corp. in its No. 1 Kratzer, located in Section 12-9s-4w. This well came in flowing at the rate of 47 bbls. an hour through an eighteen-sixty-fourths inch choke with tubing pressure 1,440 pounds and casing pressure 1,360 pounds. Gravity of the oil is 37 degrees A.P.I. which compares with the oil obtained at the Bosco Field. The well is producing from sand at 8,665-82 feet. Humble Oil & Refining Co.'s No. 1-B Devilbiss made the second producer for the field, when it was completed for 24 bbls. per hour through a three-eighths inch tubing choke at a total depth of 7,918 feet, which is a much shallower sand than the discovery. It is producing from sand topped at 7,772-84 feet.

Shell Petroleum Corp. completed a 3½-mile pipe line from the field to loading racks which were constructed at a point on the Southern Pacific Railway 3½ miles south of the field. This was followed by the company laying 20 miles of 6-inch welded line from the field, to Iowa, on the Calcasieu-Jefferson Davis Parish line.

"Shallow" Salt Dome

Lake Hermitage prospect, Plaquemines Parish, Louisiana, was proven a shallow salt dome field by Gulf Refining Co.'s No. 1 LaFourche Basin Levee District in Section 12-18s-25e, which was completed for 30 bbls. of oil per day from a plugged back depth of 4,515 feet. It was originally drilled to a total depth of 4,595 feet. So far, development on the prospect has been disappointing, as no commercial production has been developed. The discovery well went dead shortly after being completed.

Splendora Pool

The Splendora area, northeastern Montgomery County, was proven productive by the completion of Steen Drilling Co.'s No. 1 Texas Long Leaf Lumber Co., in the Walker County School Land Survey. It was completed in the Cockfield sand at 5,841 feet after being plugged back from a total depth of 6,041 feet, and made 70 bbls. of distillate per day through a one-quarter inch choke with

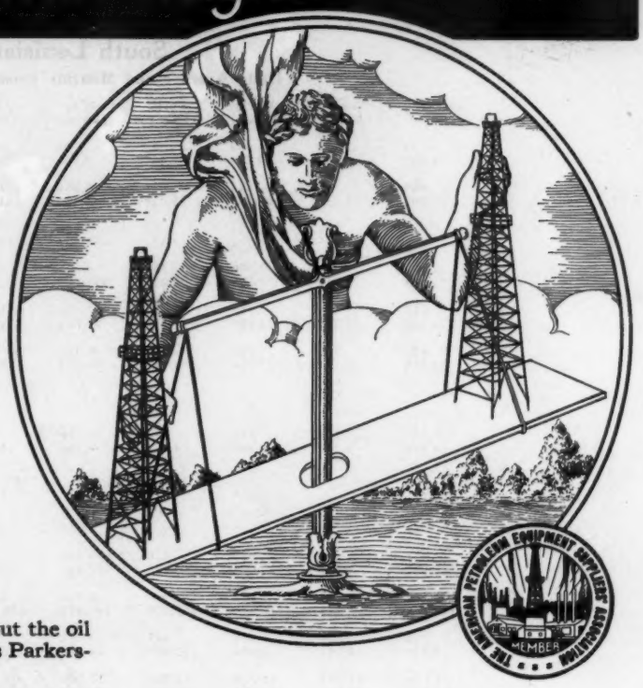
Texas

(LOWER DISTRICT)

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
AGUA DULCE:													
Daily average	13	2	2	13	11	105	196	363	370	585	609	553	
Month	405	58	60	393	344	3,147	6,073	11,258	11,105	18,131	18,266	20,243	89,483
ANGELITA:													
Daily average	.....	.....	.....	.....	164	140	151	128	105	74	49	36	
Month	.....	.....	.....	.....	5,081	4,205	4,684	3,963	3,152	2,298	1,474	1,116	25,973
COLETTO CREEK:													
Daily average	.....	.....	.....	.....	2	2	3	3	126	196	177	235	
Month	.....	.....	.....	.....	65	37	92	274	3,773	3,283	5,308	7,285	20,117
GRETA:													
Daily average	8,202	8,102	8,016	8,030	10,148	9,877	9,723	12,603	15,626	13,471	12,958	13,307	
Month	254,273	226,853	248,501	240,898	314,585	296,308	301,407	390,698	468,786	417,604	388,746	412,517	3,961,176
KEERAN:													
Daily average	196	182	336	265	314	348	299	298	291	273	280	248	
Month	6,079	5,093	10,414	7,945	9,730	10,436	9,275	9,232	8,732	8,461	8,397	7,688	101,482
KINGSVILLE:													
Daily average	80	78	74	71	70	75	79	82	72	80	81	81	
Month	2,484	2,186	2,295	2,132	2,166	2,251	2,447	2,548	2,152	2,482	2,439	2,511	28,093
McFADDIN-O'CONNOR:													
Daily average	157	185	246	295	315	329	323	325	327	359	465	432	
Month	4,865	5,183	7,629	8,852	9,763	9,868	10,015	10,071	9,817	11,124	13,948	13,392	114,527
McNEIL:													
Daily average	.....	.....	.....	.....	.....	.....	.....	64	114	96	104	101	
Month	.....	.....	.....	.....	.....	.....	.....	1,981	3,410	2,979	3,123	3,131	14,624
MOUNT LUCAS:													
Daily average	.....	.....	.....	.....	.....	.....	45	41	64	138	154	143	
Month	.....	.....	.....	.....	.....	.....	1,398	1,276	1,923	4,279	4,617	4,433	17,926
CAESAR:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	50	
Month	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	607	1,550	2,157
GRAYBURG:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35	.....	
Month	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,047	.....	1,047
PETTUS DISTRICT:													
Daily average	2,723	2,226	2,026	2,329	2,439	2,457	2,555	2,652	2,797	2,857	2,705	2,897	
Month	84,415	62,324	62,812	69,875	75,611	73,713	79,204	82,215	83,916	88,568	81,510	89,807	933,969
REFUGIO:													
Daily average	4,024	3,713	3,403	3,676	3,526	3,840	3,890	4,208	4,236	4,621	5,098	4,262	
Month	124,741	103,966	105,490	110,284	109,309	115,196	120,589	130,443	127,078	143,252	152,883	132,122	1,475,353
BAXET:													
Daily average	1,887	1,938	1,845	1,991	1,756	1,876	2,052	1,892	2,092	2,255	1,913	1,865	
Month	58,499	54,267	57,194	59,727	54,434	56,284	63,646	58,657	62,757	72,902	57,387	57,815	713,668
TOMOCONNOR:													
Daily average	.....	.....	.....	.....	.....	.....	114	68	68	145	265	393	
Month	.....	.....	.....	.....	.....	.....	3,531	2,101	2,042	4,498	7,947	12,183	32,302
TULETA:													
Daily average	73	30	40	44	37	41	110	233	527	590	572	726	
Month	2,262	845	1,237	1,318	1,150	1,227	3,405	7,230	15,802	18,292	17,163	22,320	92,251
VANDERBILT:													
Daily average	.....	.....	.....	.....	307	421	383	219	219	191	165	142	
Month	.....	.....	.....	.....	9,516	12,631	11,877	6,886	6,568	5,922	4,945	4,402	65,747
WHITE POINT:													
Daily average	27	30	27	27	29	28	27	29	26	25	24	26	
Month	831	848	840	811	897	842	841	902	782	771	729	806	9,901
SEELIGSON:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	38	37	35	16	
Month	.....	.....	.....	.....	.....	.....	.....	.....	1,146	1,144	1,054	496	3,840
PORT LAVACA:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	35	
Month	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	149	1,085	1,234
Total daily average	17,382	16,486	16,015	16,741	19,118	19,539	19,951	23,314	27,096	26,003	25,724	25,642	
Total month	538,854	461,623	496,472	502,235	592,651	586,146	618,483	722,735	812,940	806,090	771,739	794,902	7,704,870

When SAFETY is in the balance, do not compromise with weight!

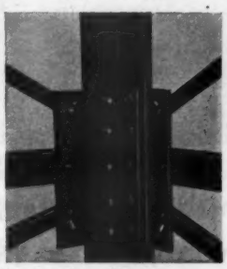


CUTTING corners by lowering the quality of a product to meet a price, has never been a Parkersburg policy. Especially where derricks are concerned, weight has never been sacrificed—with consequent loss of rigidity and safety—in order to win a customer.

The misrepresentation of a derrick's working load capacity is negligence in its worst form; it is a menace to lives and property and as such will not be countenanced by Parkersburg.

Parkersburg Derricks are made up of steel members of flawless quality, accurately designed to give full strength and rigidity, and are faultlessly fabricated. Only when the *design*, the *steel*, and the *workmanship* are *100% in quality* will the strength, stability and safety of the derrick be assured.

Field records for over 37 years throughout the oil fields of the world attest the worth of this Parkersburg policy.



Interior view of leg joint assembly . . . Note how extra long splice bars reinforce the joint.

Exterior view of leg joint . . . Note large angle splice plate, and slots in girt, brace and leg connections.

BY a simple, basic design Parkersburg secures perfect load distribution without resorting to surplus bracing. This is accomplished by means of butt-to-butt contact of the leg sections, over-size splice plates and patented slot-bolts. Double bolt construction is used in girts and braces on all heavy drilling derricks.

Parkersburg Derricks are as strong as their angle joints . . . and they can be counted upon to carry well over their A.P.I. rated capacities.

Well-organized field forces and near-by stocks of derrick repair parts are further reasons for specifying "Parkersburg."

SERVICE

● A complete Service Organization is maintained at each District office; practical production engineers are always ready to assist producers --- large or small --- in the solution of their problems

THE PARKERSBURG RIG AND REEL CO.

PARKERSBURG, W. VA.

NEW YORK · TULSA · DALLAS · HOUSTON

tubing and casing pressure approximately 2,080 pounds. The field is located on the "Conroe trend" between the Conroe and Cleveland Fields. Two dry holes were completed in the area by Humble Oil & Refining Co., both of which were drilled to the north and east of the discovery well.

More Frio Sand

The Van Vleck Field, Matagorda County, opened March 3 by Skelly Oil Co.'s No. 1 Cobb in the M. Cummings Survey, proved to be another Frio sand discovery from 7,026-45 feet. It was completed for an initial production of 160 bbls. of distillate per day, with tubing pressure 2,570 pounds, after it had been plugged back from a total depth of 7,178 feet. The company's No. 2 Cobb, located northwest of the discovery, was completed in October for another distillate producer from a total depth of 7,061 feet, making 250 bbls. of distillate daily, through a three-eighths inch choke under a tubing pressure of 1,700 pounds. Both of the tests are shut in, and at the present time there has been no new tests started in the field.

The two producers are on a block of 7,400 acres in which Skelly Oil Co. has a three-quarters interest. Lenach Corp. owns a one-eighth and Atlati Royalty Corp. a one-eighth interest. The discovery well was drilled after the block had been taken on the strength of reflection dip shooting.

Tomoconnor Pool

A few miles southeast of the Greta Field, Refugio County, Quintana Oil Co.'s No. 1 Thomas O'Connor, in the J. M. Swisher Survey, opened up the Tomoconnor Field, when it was completed in the Frio sand at 5,569-75 feet for an initial production of 624 bbls. per day through a three-sixteenths inch choke, with tubing pressure 800 pounds. The well produced for several months, but production fell off, due to salt water intrusion. Three producers have been completed in the field, making an initial average of 450 bbls. The company's No. 2 Thomas O'Connor, 430 feet northwest of the discovery, opened up a new producing sand in October when it was completed for an initial production of 35 bbls. per hour through a three-quarters inch choke from sand at 5,796-5,808 feet, the total depth. The three producers are located on a 4,000-acre block of which Humble Oil & Refining Co. owns a half interest. Quintana Oil Co. is drilling its No. 4 Thomas O'Connor, and has made location for No. 5. The Humble Pipe Line Co. layed a 6 and 4-inch line from the field to Refugio, where it ties in with the company's Pettus-Refugio-Ingleside 8-inch line.

Oil in Jackson County

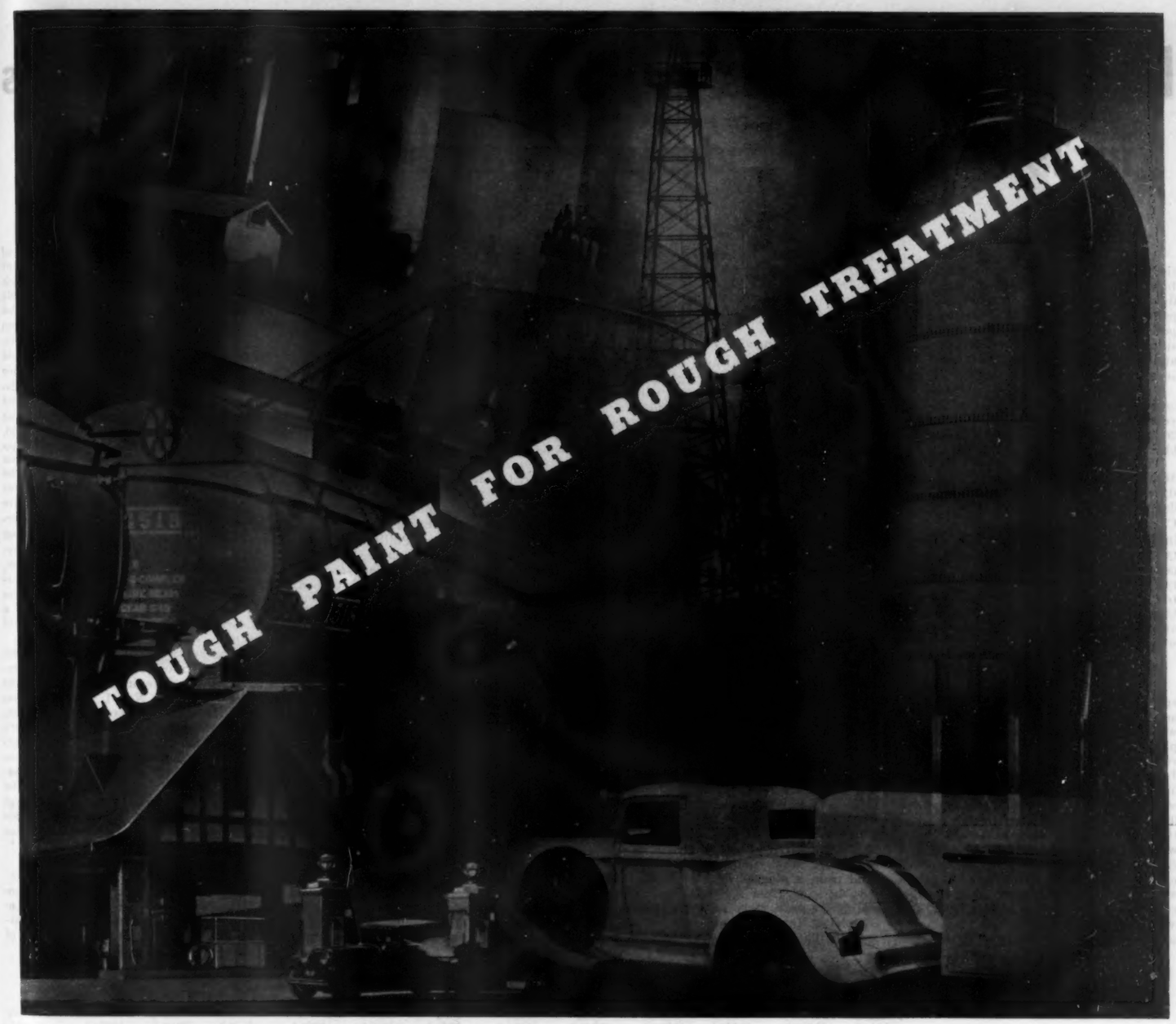
Commercial oil production in Jackson County was discovered by Encino Gas Co.'s No. 1 Toney, located in the Vanderbilt area. It was completed with an initial production of 500 bbls. of 33 gravity oil, through a three-sixteenths inch choke. It is producing from the Frio sand cored from 5,525-82 feet, the total depth.

(Continued on Page 110)

South Louisiana

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
ANSE LA BUTTE:													
Daily average	39	39	39	39	42	46	47	45	47	40	40	40	
Month	1,209	1,089	1,210	1,172	1,305	1,203	1,461	1,399	1,411	1,243	1,204	1,240	15,146
BLACK BAYOU:													
Daily average	900	978	883	934	1,363	1,393	1,100	1,359	1,486	1,409	1,109	1,007	
Month	27,905	27,383	27,367	28,018	42,451	41,787	34,096	42,126	44,584	43,697	33,266	31,217	429,596
BOSCO:													
Daily average	.....	.....	.....	53	802	827	2,300	2,836	4,468	5,251	7,101	9,536	
Month	.....	.....	.....	1,593	24,861	24,813	71,305	87,913	132,235	162,777	213,031	295,616	1,014,144
CAILLOU ISLAND:													
Daily average	2,501	2,500	2,500	3,281	3,515	3,094	3,611	3,962	4,121	4,771	5,308	5,306	
Month	77,538	70,010	77,509	98,427	108,967	92,818	111,936	122,825	123,624	147,905	159,243	164,486	1,355,288
CAMERON MEADOWS:													
Daily average	359	508	794	1,077	1,855	1,750	1,681	1,623	1,496	1,458	1,549	1,424	
Month	10,124	14,220	24,609	32,313	57,503	52,502	52,117	50,316	44,886	45,193	46,466	44,144	474,393
CHOCTAW:													
Daily average	996	900	900	992	1,167	995	781	942	993	911	447	442	
Month	30,872	25,197	27,905	29,757	36,174	29,848	24,205	29,201	29,787	28,246	13,414	13,702	318,309
DARROW:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17	
Month	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	527	527
EDGERLY:													
Daily average	151	144	139	154	176	165	164	135	142	137	409	265	
Month	4,682	4,030	4,304	4,624	5,459	4,955	5,087	4,183	4,263	4,244	12,267	8,215	66,313
FOUR ISLE:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	352	
Month	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10,563	10,788	21,351
GILLIS:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	175	459	888	
Month	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,438	13,771	27,528	46,727
GUEYDAN:													
Daily average	358	353	345	330	344	322	315	302	284	270	257	292	
Month	11,096	9,881	10,697	9,903	10,663	9,955	9,762	9,366	8,527	8,371	7,706	9,083	115,009
HACKBERRY (East):													
Daily average	4,537	4,618	3,825	4,056	4,725	4,654	4,666	4,874	4,882	5,571	5,005	4,614	
Month	140,652	129,300	118,578	121,676	146,476	139,623	144,649	151,090	146,453	172,700	150,158	143,034	1,704,389
HACKBERRY (Old):													
Daily average	335	306	316	441	342	345	538	910	970	788	605	578	
Month	9,390	8,563	9,790	13,227	10,605	10,347	16,675	28,214	29,106	24,424	18,146	17,918	196,405
IOWA:													
Daily average	11,770	11,440	11,712	12,768	13,695	14,135	16,487	15,881	14,876	15,137	17,103	17,413	
Month	364,864	320,316	363,074	383,042	424,642	424,053	571,093	492,307	446,274	469,249	513,086	539,803	5,311,703
JENNINGS:													
Daily average	846	873	844	790	816	1,660	1,833	1,518	1,516	1,442	1,332	1,168	
Month	26,222	24,446	26,160	23,704	25,298	49,376	56,827	47,053	45,483	44,704	39,965	36,208	445,648
LAKE BARRE:													
Daily average	5,844	5,363	4,501	4,617	4,499	4,848	4,982	4,895	4,860	5,226	5,127	5,131	
Month	181,167	150,160	139,532	138,504	139,467	145,441	154,446	151,749	145,797	162,002	153,806	159,061	1,791,133
LAKE HERMITAGE:													
Daily average	.....	.....	.....	12	3	3	.....	.....	.....	.....	.....	.....	
Month	.....	.....	.....	361	93	91	.....	.....	.....	.....	.....	.....	545
LAKE PELTO:													
Daily average	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Month	1,304	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,304
LAKE WASHINGTON:													
Daily average	540	735	799	820	870	1,275	1,209	1,144	1,200	1,164	1,015	1,142	
Month	16,742	20,585	24,764	24,602	26,968	38,249	37,476	35,467	36,005	36,087	30,449	35,402	362,797
LEESVILLE:													
Daily average	1,825	3,200	3,547	7,028	9,010	11,012	16,152	14,575	17,183	17,130	18,593	19,266	
Month	56,573	89,603	109,961	210,836	279,312	330,356	500,748	451,821	515,485	531,028	551,784	597,246	4,230,753
LOCKPORT:													
Daily average	1,956	1,897	1,809	1,664	1,960	1,884	1,844	2,111	2,243	2,071	1,799	2,084	
Month	60,638	53,112	46,775	49,923	60,794	56,524	57,159	65,447	67,283	64,203	53,972	64,604	700,405
NEW IBERIA:													
Daily average	.....	.....	.....	.....	.....	.....	419	835	842	300	312	313	
Month	.....	.....	.....	.....	.....	.....	12,986	25,875	14,467	9,301	9,363	9,858	81,850
PORT BARRE:													
Daily average	2,212	2,103	2,147	2,163	2,067	1,922	2,750	2,566	3,356	3,552	3,612	3,603	
Month	68,577	59,029	66,551	64,887	64,073	57,653	85,253	79,549	101,876	110,111	108,362	111,693	977,610
ROANOKE:													
Daily average	.....	.....	.....	.....	221	973	1,003	914	833	767	1,477	1,647	
Month	.....	.....	.....	.....	6,852	29,342	31,097	28,351	24,994	23,774	44,308	51,057	239 755
SORRENTO:													
Daily average	38	23	15	13	25	28	31	28	26	33	39	45	
Month	1,175	648	463	394	774	843	957	872	787	1,027	1,173	1,395	10,513
STARKS:													
Daily average	691	796	764	728	699	685	776	969	696	694	591	586	
Month	21,422	22,290	23,689	21,736	21,666	20,547	24,059	30,035	20,983	21,516	17,727	18,166	263,836
SULPHUR:													
Daily average	3,262	3,453	3,472	3,548	3,500	3,689	3,742	3,661	3,565	3,689	3,582	2,926	
Month	101,155	96,630	107,625	106,443	108,503	110,675	116,019	110,397	106,944	114,367	107,464	90,706	1,277,568
SWEET LAKE:													
Daily average	1,107	1,109	1,110	1,110	1,110	1,099	1,081	1,077	1,051	962	952	1,002	
Month	34,313	31,056	34,414	33,302	34,413	32,968	33,517	33,381	31,530	29,824	28,556	31,062	388,336
VINTON:													
Daily average	3,390	3,434	3,354	3,646	3,436	3,445	3,263	3,232	3,013	2,815	2,894	2,830	
Month	105,091	96,154	103,978	109,374	106,513	103,347	101,146	100,195	90,392	87,263	86,817	87,730	1,178,001
WELSH:													
Daily average	40	31	.....	.....	.....	45	45	47	40	40	39	26	
Month	1,239	864	.....	.....	.....	1,348	1,393	1,452	1,205	1,241	1,173	806	10,720
WHITE CASTLE:													
Daily average	782	703	665	567	559	546	487	527	349	502	447	361	
Month	24,246	19,680	20,610	17,011	17,328	16,202	15,100	16,339	10,468	16,561	13,411	11,191	197,147
Total daily average	44,522	45,511	44,130	50,321	57,001	59,843	71,328	70,868	74,158	76,296	81,545	84,306	
Total month	1,378,196	1,274,287	1,369,570	1,524,339	1,767,030	1,795,372	2,271,168	2,196,902	2,224,350	2,365,177	2,446,352	2,613,486	23,227,221
Total Gulf Coast, 1934	6,363,760	5,739,776	6,322,555	6,426,385	7,092,601	6,908,315	7,490,333	7,601,226	7,599,474	7,451,451	7,413,030	7,805,301	84,215,206
Total 1933	5,008,572	4,481,227	5,522,626	5,694,532	6,936,095	6,531,707	7,389,261	7,384,507	7,284,030	7,099,462	6,031,283	6,280,424	76,143,728
Total 1932	4,178,761	3,722,638	3,988,104	4,002,141	4,415,809	4,244,365	4,490,256	4,698,324	4,990,464	4,848,967	4,843,585	4,973,328	53,396,758
Total 1931	5,598,347	4,836,692	5,081,816	5,354,911	5,499,710	4,881,272	4,684,148	4,499,463	4,268,297	4,499,371	4,546,265	4,573,216	58,492,995
Total 1930	5,881,489	5,619,270	6,105,268	5,980,067	6,181,740	6,214,648	6,320,149	6,214,883	5,824,543	5,800,475	5,415,591	5,642,294	71,300,514
Total 1929	4,344,232	3,959,613	4,586,507	4,705,904	4,673,923	4,484,434	4,749,161	4,956,783	5,007,570	5,486,792	5,591,438	5,554,487	58,101,845
Total 1928	3,796,856	3,652,390	3,796,816	3,760,253	4,155,544	4,114,796	4,378,872	4,188,943	3,948,578	3,842,655	3,996,644	4,206,072	47,868,342
Total 1927	5,232,366	4,409,580	4,827,581	4,426,560	4,742,127	4,612,630	4,422,536	4,201,901	4,258,890	4,379,452	4,176,450	4,350,044	54,174,996
Total 1926	3,022,877	2,820,608	3,034,682	2,842,050	3,208,721	2,949,970	2,795,069	5,287,019	5,655,960	5,433,029	5,285,730	5,570,607	48,906,575



No industry demands more of paint than the oil industry. From tank field and refinery to trucks, rolling stock and gas stations, paint must "take it". Sherwin-Williams paints are made to "take it". And Sherwin-Williams paint engineers know the oil industry—know its peculiar painting demands. Their specialized knowledge gives needed aid in selecting the right paint. Their proven tests show you ways by which Sherwin-Williams paints will serve better and help you cut costs. The Sherwin-Williams Company, Cleveland, Ohio, and all principal cities.

SEE THE SHERWIN-WILLIAMS PAINT ENGINEER

SHERWIN-WILLIAMS PAINTS

NRA INDUSTRIAL FINISHES

Fifteen New Pools Opened in Southwest Texas in 1934; Field Extensions and New Horizons

By F. L. SINGLETON

An extensive wildcatting program carried on in the Southwest Texas District, together with the development of proven fields, made 1934 one of the most prosperous years the district has ever experienced. The widespread activity resulted in the discovery of 15 new pools, and the development of new sands in several of the proven areas.

Production for the year showed an increase of 268,297 bbls. over the previous year. The district produced a total of 20,593,567 bbls. compared to 20,325,270 bbls. during the year 1933.

The new fields discovered included McNeil in Live Oak County; Sam Fordyce, Hidalgo County; a shallow producing area in Bexar County; Marrs-Choate, Karnes County; two gas fields in Duval County; Kimbro, Travis County; Haynes Ranch, Zapata County; Lopeno, Zapata County; Dirks, Bee County; Angelita, San Patricio County; Sinton, San Patricio County; Caesar, Bee County; West Tuleta, Bee County; and an unnamed field, east of the government wells field in Duval County.

Sam Fordyce Discovery

The Sam Fordyce Field in Southwestern Hidalgo County was probably the most important discovery of the year. It was opened in September by the completion of Otto Wood's No. 1 John Lawrence, tract 274, Porcion 39, Ancient Jurisdiction of Reynosa. It topped saturated Frio sand at 2,736 feet and was cored to 2,753 feet, the total depth, where it was completed for an initial production of 25 bbls. through a $\frac{1}{16}$-inch choke, with working pressure 375 pounds. The field received an extremely rapid development program. Twenty-two locations were made the first week after the discovery, and up to this writing 22 oil wells have been completed, making a prorated daily allowable of 2,020 bbls. The field has been defined to the north, west and south, but was recently extended to the east, and there is a possibility that production will be extended a few hundred feet further in this direction.

Angelita Pool

In the lower coastal area of Southwest Texas Trans-Salt Dome region, Atkins and O'Neil and Continental Oil Co.'s No. 1 Welder opened a new producing pool at Angelita, five miles southwest of Odem, San Patrictio County, April 4, when it came in flowing at the rate of 7½ bbls. per hour, of 33.9 gravity oil through a quarter-inch choke. Shut in tubing pressure was 1,550 pounds and casing pressure 1,700 pounds. The well was later killed and tubing was set 3½ feet off bottom, and then completed for 175 bbls. per day through a ¼-inch choke with a pressure of 500 pounds on the tubing and 1,275 pounds on the casing. It was completed in the Frio sand from 5,376-82 feet, the total depth. Development of the field so far has been very unprofitable, and only two wells showed any kind of possibilities. These produced gas and distillate under high pressure, but eventually started making considerable salt water. The discovery well is making approximately 17 bbls. per day.

New Pool in San Patricio

San Patricio County received its second producing area, when Plymouth Oil Co.'s No. 1 Welder, located three miles north of Sinton in the J. M. & F. Portilla Survey, made 5½ bbls. per hour of 50 gravity oil through a $\frac{5}{16}$-inch choke. It was completed in the Frio sand from a plugged back depth of 6,602 feet, in sand from 5,430-34 feet. At the end of the year, three producers had been completed in the field, two of which are distillate producers. The discovery well is making around 8 bbls. per day. Plymouth Oil Co. is drilling its No. 2-B Welder, which is scheduled for a 7,500-foot test.

McNeil Pool

Three and one-half miles northwest of the Old Lucas gas field in the southeast part of Live Oak County, Lion Oil & Refining Co. opened the McNeil (Dinero) Field, by the completion of its No. 1 McNeil. It was completed August 15, from a Hockleyensis sand at 4,370-76 feet for 10 barrels per hour through a $\frac{1}{16}$-inch choke. Development in the area has been rather slow and at the end of the year, the discovery well was the only oil producer.

The Caesar Field, northern Bee County, which was first proven productive by Caesar Oil Co.'s No. 1 Pullin in the F. Lewis Survey, a gasser making an estimated 25,000,000 to 35,000,000 feet of gas daily, from the Pettus sand topped at 3,007 feet and bottomed at 3,032 feet, received its first oil producer, the first week in November by the completion of Luling Oil & Gas Co.'s No. 4 Ruhman in Block 113. Seven-inch casing was cemented at 3,054 feet and it was completed for 114 bbls. per day, with tubing pressure 500 pounds and casing pressure 680 pounds. Gravity of the oil is 26 degrees. The field has recently been extended with production to the southwest, which no doubt will lead to considerable drilling activity in this field.

West Tuleta

Two other important discoveries were made in Bee County, one of which has the appearance of developing into major importance. It is the West Tuleta Field, located several miles west of the old Tuleta development, which was opened by Dirks Brothers No. 1 Skinner-Harris in Section 10 of the Ragley Subdiviison. The discovery well topped the Pettus sand at 3,950 feet and was completed at 3,973 feet for an initial production of 90 bbls. in 24 hours through a ⅛-inch choke, with tubing pressure 1,550 pounds and casing pressure 1,525 pounds. An active development program has been carried on in this field since its discovery, which has resulted in the field being extended approximately 2½ miles in a southwesterly direction from the discovery. Two tests in the field have proved the existence of two separate producing horizons. On the east side of the field, Whisenant and Trenchard's No. 2 Rapp made an estimated 50 bbls. per day on the pump in a sand, thought to be the Hockleyensis from 3,075-90 feet. It was plugged back and completed at the above depth after it failed to make a commercial well in the Pettus sand. The latest test to encounter this sand was Heyser-Heard and Walton's No. 1 Walton, about two miles southwest, that indicated production in the same sand from 3,107-37 feet, after it had recovered a considerable amount of oil on a drill stem test.

Two miles west of the above field, the same operators opened another promising discovery late in December by the completion of its No. 1 Roth in Section 7. It was completed for 360 bbls. per day through a ¼-inch choke, with tubing pressure 340 pounds and shut-inch casing pressure 670 pounds. Production is coming from four feet of Pettus sand cored from 3,880-84 feet. The field is to be known as the Dirks Pool and has been given a daily allowable of 150 bbls. No new development has started in the area.

New Gas Area

In the northern part of Duval County, Magnolia Petroleum Co.'s No. 1 Labee, a wildcat, in Survey No. 2 discovered a new gas area, the latter part of

Southwest Texas

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
BEXAR COUNTY:													
Daily average	604	617	623	652	706	715	578	564	547	532	514	496	
Month	18,724	17,276	19,315	19,542	21,888	21,448	17,918	17,491	16,410	16,491	15,417	15,376	217,316
BRANYON:													
Daily average	30	31	30	34	30	29	30	30	31	31	26	26	
Month	937	860	928	1,017	928	871	933	934	937	964	786	806	10,901
BRUNER (Salt Flat):													
Daily average	4,612	4,619	4,586	4,604	4,603	4,625	4,451	4,507	4,436	4,484	4,531	4,312	
Month	142,966	129,334	141,542	138,118	142,681	138,752	137,978	139,712	133,072	139,001	135,926	133,672	1,652,758
BUCHANAN:													
Daily average	54	55	56	56	53	45	48	51	50	45	51	30	
Month	1,679	1,531	1,740	1,682	1,646	1,347	1,485	1,574	1,504	1,399	1,529	930	18,046
BYERSVILLE PLUG:													
Daily average	55	54	87	91	99	102	195	196	175	152	186	258	
Month	1,716	1,512	2,661	2,735	3,066	3,056	6,049	6,079	5,247	4,716	5,583	7,998	50,753
CALLIHAN:													
Daily average	74	66	74	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Month	2,303	1,856	2,297	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,456
CEDAR CREEK:													
Daily average	308	404	438	451	481	484	667	425	367	305	303	211	
Month	9,539	11,323	13,575	13,526	14,910	14,524	20,675	13,178	11,015	9,457	9,095	6,541	147,358
CHAPMAN:													
Daily average	596	537	540	584	544	625	575	575	521	526	529	495	
Month	18,462	15,036	16,742	17,517	16,865	18,748	17,821	17,828	15,628	16,303	15,865	15,345	202,160
DALE:													
Daily average	297	275	269	278	278	282	258	268	277	243	243	212	
Month	9,211	7,693	8,341	8,338	8,621	8,462	7,995	8,311	8,314	7,531	7,288	6,572	96,677
DARST CREEK:													
Daily average	8,284	9,404	9,166	9,345	9,202	9,314	8,970	9,110	9,172	9,009	9,030	9,100	
Month	247,804	262,310	284,145	280,352	285,259	279,423	278,074	282,414	275,151	279,276	270,896	282,100	3,348,204
DUNLAP:													
Daily average	91	83	87	91	81	78	78	69	71	62	65	59	
Month	2,826	2,331	2,690	2,438	2,516	2,337	2,421	2,136	2,132	1,924	1,951	1,829	27,526
EAGLE HILL:													
Daily average	482	486	418	504	813	845	592	619	603	547	520	525	
Month	14,943	13,608	12,955	15,115	25,355	25,352	18,357	19,192	18,084	16,953	15,602	16,275	211,791
SAM FORDYCE:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	.....	660	2,733	2,022	
Month	.....	.....	.....	.....	.....	.....	.....	.....	.....	20,461	81,988	62,682	165,131
GOLIAD:													
Daily average	12	16	17	3	.....	.....	.....	.....	.....	.....	.....	.....	
Month	379	457	525	90	.....	.....	.....	.....	.....	.....	.....	.....	1,451
GOVERNMENT WELLS:													
Daily average	11,210	10,171	11,405	14,951	15,706	16,124	22,359	25,090	24,967	24,246	24,331	19,355	
Month	347,497	284,801	353,569	448,527	486,884	483,718	693,124	777,793	749,003	751,623	729,927	600,005	6,406,461
HILBIG:													
Daily average	775	775	774	775	771	777	775	775	775	775	775	686	
Month	24,031	21,692	24,027	23,253	23,901	23,315	24,027	24,020	23,245	24,022	23,245	21,080	279,749

(Continued on Next Page)

The Hesselman is a solid injection, spark ignition engine burning Diesel fuel oils. It was invented and developed by one of Europe's three leading Diesel engineers, Mr. K. J. E. Hesselman, most of whose professional lifetime has been spent in the improvement of the conventional high pressure Diesel.

Waukesha-Hesselman Engines are not offered as a substitute for compression ignition Diesel engines, but rather as supplementary. It is an engine that expands the economic application of fuel oil power and that will fit into many places where a Diesel cannot be economically applied.

After thirty years' specialized experience, Waukesha engineers are building engines for every fuel—each the most economical in its class. This knowledge enables them to recommend without prejudice the engine best suited to the particular duty.

The Waukesha-Hesselman is recommended for industrial tractors, electric lighting and power plants, road building, logging, oil field, and contractors' machinery, marine propulsion, etc. *Write* for Bulletin 1000. *Waukesha Motor Company, Waukesha, Wisconsin.*

THIS IS NO. 1 OF A SERIES ON THE WAUKESHA-HESSELMAN OIL ENGINE
No. 2 will appear next month. A reprint of the complete series will be mailed on request

WAUKESHA ENGINES

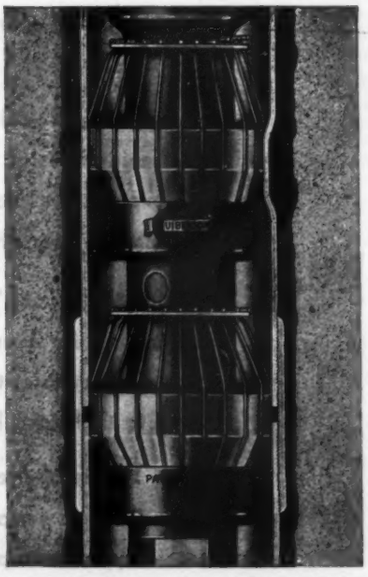
THIS PATENTED SWAB has 9 ADVANTAGES

Because the GUIBERSON Swab operates on an entirely different principle from other swabs, and is patented—it offers the operator no less than 9 *fundamental advantages* which are strictly *exclusive* to this swab.

So apparent have its advantages been, ever since it was first placed on the market, that for many years it has done considerably more than half of all swabbing, throughout the world.

Its advantages, inherent in its principle of flexible cups, are as follows:

1. PASSES PROJECTIONS EASILY, because its flexible cups yield readily.
2. PASSES PIPE JOINTS UNINJURED, due to protection afforded by the imbedded flexible guide wires.
3. STEM AND JARS NOT REQUIRED TO SINK SWAB, flexible cups offering no serious opposition to downward passage.
4. PRACTICALLY NON-LEAKABLE IN OPERATION, as the fluid pressure forces cup rims tightly against the casing.
5. SWABS TUBING AS SUCCESSFULLY AS CASING. The only type of swab which has been successful in tubing sizes.
6. CASING DIAMETER NEED NOT BE CONSTANT. Resiliency of cups permits a considerable variation in inside diameters of the casing in which the swab will function.
7. WILL NOT KINK WIRE LINE. When swab strikes fluid, running in, it will not stop abruptly and kink the wire line.
8. DURABILITY OF CUPS. Cups have been carefully perfected and are more durable in practice than any material heretofore used for swabbing.
9. WILL NOT WEAR OUT CASING. Flexibility of cups minimizes wearing effect on casing. Runs of 70 days duration have been made without perceptible casing wear.



Swab Cups Passing Dent and Joint in Casing

Oil operators can only afford to use the *best* tools.

THE GUIBERSON CORPORATION

Box 1106, Dallas, Texas

LOS ANGELES: 1304 Security Title Insurance Bldg.
TULSA: 504 Wright Bldg.—HOUSTON: 635 Norfolk Street
PONCA CITY: 321 S. Osage Street—NEWARK, O.: First and Locust Streets

GUIBERSON

BETTER BE SAFE THAN SORRY

November, when it made 30,000,000 feet of gas daily at a total depth of 2,460 feet. It is 10 miles southeast of the Government Wells Field and 8 miles east of the Eagle Hill Field. It opens a new producing horizon for the county, thought to be in the Hockleyensis.

Duval County was the scene of two other discoveries, one of which was a shallow gas field, in the northwestern part of the county, and the other a small producer, located east of the Government Wells Field. Mills Bennett Production Co. was the discoverer of the shallow gas field by the completion of its No. 1 Duval County Ranch Co. in Survey 192. It was completed for an estimated 15,000,000-foot gas well, from a total depth of 1,505 feet, flowing through a ¾-inch choke with 525 pounds of pressure. It was originally drilled to a total depth of 3,005 feet, and was plugged back and completed at its present depth the first part of December. East of the Government Wells Field in Section 553, B. S. & F. Survey, Humble Oil & Refining Co.'s No. 1 Ruiz, was looked upon as a forerunner of a new field, when it tested 10 bbls. of fluid per hour of which 75 per cent was brackish water, through open 2-inch tubing. Production is coming from Jackson formation bottomed at 2,792 feet. Humble Oil & Refining Co. has made location for its No. 1 Vela in Section 42, T.T.R.R. Survey, located west of the discovery. One and one-half miles south, Magnolia Petroleum Co.'s No. 1 Herbst defined production in that direction, when it was abandoned as a dry hole at a total depth of 3,263 feet.

SOUTHWEST TEXAS
Summary of Field Operations, 1934

County—	Comp.	Prod.	Abd.	Gas
Aransas	1	0	1	0
Atascosa	2	0	2	0
Bandera	2	0	2	0
Bastrop	47	3,319	30	0
Bee	78	11,121	27	10
Bell	2	0	2	0
Bexar	46	78	36	2
Blanco	2	0	2	0
Brooks	4	0	4	0
Burleson	3	0	3	0
Caldwell	23	0	22	0
Comal	1	0	1	0
Dewitt	5	0	5	0
Duval	451	115,798	80	29
Edwards	3	0	3	0
Fayette	4	0	4	0
Frio	3	0	3	0
Goliad	9	890	5	0
Gonzales	2	0	2	0
Guadalupe	17	28	15	0
Hays	1	0	1	0
Hidalgo	41	13,128	21	1
Jim Hogg	12	0	12	0
Jim Wells	11	250	7	1
Karnes	17	935	13	2
Kendall	4	0	4	0
Kerr	5	0	5	0
Kleberg	3	0	3	0
La Salle	3	0	3	0
Lee	1	0	1	0
Live Oak	35	563	27	3
Maverick	6	0	6	0
McMullen	81	2,717	51	4
Medina	7	4	6	0
Menard	1	0	1	0
Milam	7	0	7	0
Nueces	30	2,335	15	1
San Patricio	16	442	10	1
Starr	56	2,173	37	11
Travis	14	196	11	0
Uvalde	8	0	8	0
Webb	64	15,128	26	8
Willacy	1	0	1	0
Williamson	35	235	22	0
Wilson	5	0	5	0
Zapata	65	1,766	25	14
Total, 1934	1,234	171,106	578	87
Total, 1933	951	161,853	527	52
Difference	283	9,253	51	35

COMPLETION BY MONTHS

Month—	Comp.	Prod.	Abd.	Gas
January	112	15,130	58	6
February	89	11,111	39	8
March	94	20,846	37	4
April	99	14,251	44	9
May	115	24,232	53	9
June	98	11,485	48	10
July	94	7,266	45	5
August	70	8,385	30	5
September	101	8,847	61	5
October	105	18,236	34	9
November	124	15,861	66	6
December	133	15,456	63	11
Total, 1934	1,234	171,106	578	87
Total, 1933	951	161,853	527	52
Difference	283	9,253	51	35

Shallow Discoveries

In the eastern part of Bexar County, Paul Meadows opened up a new shallow producing area for the county, when he completed his No. 1 Cantu in the Jose M. Ariola Survey for 30 bbls. per day on the pump. Production is coming from the Cooksey sand topped at 1,470-90 feet. The test was originally drilled to the Edwards lime at a total depth of 2,255 feet but was plugged back after it tested sulphur water. Northeast, Campbell and Others are rigging up for their No. 1 Cantu in Survey 15. This is the first test to be drilled in the area since the discovery.

Another shallow producing area was developed in Travis County when Humble Oil & Refining Co.'s No. 1 Buck Christian flowed 190 bbls. daily from a Serpentine plug from a depth of 757 feet. At the end of the year, the company had completed three producers and two dry holes in the field, which was opened October 5. The field is located in the J. Kemp Survey on what is known as the Kimbro area.

In Karnes County, Pacific Gas & Fuel Co.'s No. 1 M. E. Choate, located in the southern part of the county, three miles northwest of the North Pettus Field in the Johnson Survey, opened another gas field from the Pettus sand bottomed at 3,325 feet, when it tested 25,000,000 feet of gas daily. A second test has been started in the area by the same operators.

Southwest of the Escobas Field, on the Haynes Ranch in Zapata County, Merle Gunby's No. 1 Alice D. Haynes, located in the Comitas and Villa Grant, Block 4, was the discovery well of a new shallow production in sand from 814-24 feet, and was completed on the pump for 20 bbls. of 21.4 degrees gravity oil per day. Two wells have been completed in the area, both of which are small producers. In the southwestern part of the county a shallow gas discovery was made by R. B. Morrison's No. 1 R. Ramirez. It was completed in the Mt. Selman formation from 2,042-62 feet for a 20,000,000-foot gas well with shut in pressure 575 pounds. The discovery was made July 15. Location is Block 4, Share 20, Porcion 19, five miles from the Starr County line. Two wells are drilling in the area known as the Lopeno Field.

Revival of Piedras Pintas

Interest in the old abandoned Piedras Pintas salt dome in Duval County was revived the latter part of August, by the completion of Texon Oil & Royalty Corp. and Others, No. 1 Parr for a 600-bbl. well. It was drilled to a total depth of 3,818 feet, but was plugged back and completed in sand from 3,624-38 feet, through perforated casing. The completion of this well marked the first production in this field since 1925, when Humble Oil & Refining Co.'s No. 4 Walsh was completed for an initial production of 50 barrels per hour, it, however, flowed for only a short while and then went dead. It was later abandoned. Following the completion of the company's No. 1 Parr, the company drilled its No. 2 Parr and completed it for a good well. Both producers are on a 540-acre tract, 18 miles north of Benevides in the central part of the county.

In Bee County, Mid-Continent Crude Oil Co.'s No. 1 Kimball, northwestern part of the county, opened a new production for the Old Grayburg area, when it made 125 bbls. per day at a total depth of 3,551 feet, with tubing pressure 150 pounds and casing pressure 350 pounds. It is located two miles north of Mineral and six miles west of Pettus, near the discovery well drilled by the Grayburg Oil Co. several years ago.

Extensions and New Sands

In the Agua Dulce Field, Nueces County, Texon Royalty Co. extended the producing limits of the field one mile south, by the completion of its No. 1 Walton for 40,000,000 feet of gas and 50 bbls. of distillate per day from a total depth of 4,775 feet. Location is in Lot 5, Chapman Partion Survey.

Houston Oil Co.'s No. 27 Cartwright, located approximately in the center of the Lucas Field, Live Oak County, op-

Southwest Texas (Continued)

Daily Average and Monthly Production in 1934

	January (bbls.)	February (bbls.)	March (bbls.)	April (bbls.)	May (bbls.)	June (bbls.)	July (bbls.)	August (bbls.)	September (bbls.)	October (bbls.)	November (bbls.)	December (bbls.)	Ttl. 1934 (bbls.)
JACOBS:													
Daily average	282	283	287	558	621	631	584	589	605	632	614	800	
Month	8,740	7,924	8,895	16,742	19,249	18,927	18,107	18,256	18,144	19,596	18,423	24,800	197,803
JOLIET:													
Daily average	26	28	28	28	22	21	14	12	12	12	12	11	
Month	809	779	864	843	686	628	437	376	354	376	357	341	6,850
LARREMORE:													
Daily average	59	56	49	10	33	30	38	45	45	47	48	54	
Month	1,828	1,567	1,522	298	1,027	909	1,175	1,391	1,357	1,451	1,442	1,674	15,641
LULING:													
Daily average	5,983	6,196	6,296	6,132	6,080	6,105	5,951	5,658	5,483	5,576	5,646	5,444	
Month	185,472	173,481	195,170	183,955	188,476	183,154	184,485	175,395	164,483	172,854	169,377	168,764	2,145,066
LYTTON SPRINGS:													
Daily average	463	461	459	470	452	482	457	455	443	428	415	413	
Month	14,352	12,909	14,227	12,897	14,011	14,456	14,163	14,115	13,286	12,266	12,454	12,803	162,940
McCRORY:													
Daily average	20	20	20	4	.....	.....	.....	.....	.....	.....	.....	.....	
Month	614	552	625	118	.....	.....	.....	.....	.....	.....	.....	.....	1,909
MANFORD:													
Daily average	52	53	53	45	45	44	47	47	46	43	41	44	
Month	1,617	1,486	1,641	1,355	1,398	1,319	1,453	1,453	1,389	1,336	1,234	1,364	17,045
MEDINA:													
Daily average	21	17	21	21	13	14	11	17	14	20	19	7	
Month	663	476	658	651	375	418	344	523	426	623	571	217	5,925
CHICON LAKE:													
Daily average	28	24	23	18	15	15	15	14	19	14	14	20	
Month	869	683	710	542	460	463	462	438	564	431	419	620	6,661
MINERVA:													
Daily average	334	334	333	334	331	326	334	334	253	235	235	225	
Month	10,344	9,357	10,360	10,017	10,272	10,083	10,354	10,344	7,739	7,284	7,046	6,975	110,175
MIRANDO DISTRICT:													
Daily average	6,936	7,040	6,856	6,936	6,957	6,976	6,526	6,391	6,998	7,564	7,687	7,704	
Month	215,016	197,134	212,539	208,078	215,666	209,277	202,303	198,120	196,162	184,483	230,641	238,824	2,508,342
OGDEN (Bateman):													
Daily average	380	562	618	618	625	634	534	498	540	530	580	525	
Month	11,783	15,740	19,152	18,542	19,377	19,017	16,248	15,443	16,206	16,432	17,397	16,586	201,922
PIEDRAS PINTAS:													
Daily average	.....	.....	.....	.....	.....	.....	.....	.....	460	330	99	150	
Month	.....	.....	.....	.....	.....	.....	.....	.....	13,797	10,234	2,971	4,650	31,652
SAL MAR:													
Daily average	6	6	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Month	194	170	184	.....	.....	.....	.....	.....	.....	.....	.....	.....	548
SOMERSET:													
Daily average	805	816	858	849	759	785	741	728	725	737	719	748	
Month	24,942	22,839	26,595	25,466	23,531	23,546	22,971	22,633	21,751	22,846	21,574	23,188	281,782
THRALL:													
Daily average	50	52	53	53	52	54	53	54	54	54	54	52	
Month	1,562	1,483	1,641	1,594	1,630	1,611	1,643	1,671	1,635	1,673	1,622	1,612	19,807
TOAST:													
Daily average	106	103	95	90	86	85	83	78	71	12	67	75	
Month	3,279	2,885	2,948	2,713	2,665	2,547	2,569	2,416	2,124	370	2,013	2,325	28,854
Daily average	44,035	43,645	43,757	48,536	49,462	50,257	54,954	57,199	57,765	57,851	60,037	54,062	
Total 1934	1,365,093	1,232,087	1,383,113	1,456,056	1,533,243	1,507,708	1,403,571	1,773,137	1,719,150	1,743,377	1,802,639	1,675,963	18,595,126
Total 1933	1,686,944	1,539,203	1,760,187	1,705,575	1,791,634	1,741,484	1,790,517	1,826,074	1,728,639	1,796,558	1,468,819	1,490,636	20,325,270
Total 1932	1,821,552	1,836,872	1,883,734	1,730,681	1,971,657	1,849,784	1,896,160	1,884,996	1,858,468	1,903,039	1,795,298	1,712,103	22,144,284
Total 1931	2,698,916	2,362,696	2,230,534	2,211,571	2,059,458	2,000,546	2,009,113	1,996,070	1,963,904	1,991,702	1,877,856	1,949,699	25,342,065
Total 1930	1,981,174	1,813,895	1,977,584	1,893,330	2,188,405	2,421,241	2,071,290	3,423,468	3,239,136	3,427,015	2,763,804	2,852,752	31,032,194
Total 1929	1,453,427	1,527,677	2,021,412	2,199,207	2,412,599	2,424,277	2,349,745	2,356,867	2,148,828	2,029,702	1,818,328	1,744,091	24,481,160
Total 1928	825,036	789,190	839,945	807,553	804,627	774,570	804,643	830,468	844,550	892,350	912,608	1,168,912	10,294,452
Total 1927	1,246,673	1,075,812	1,167,584	1,112,760	1,092,223	1,020,180	1,005,723	985,149	959,550	923,242	868,290	878,502	12,321,498
Total 1926	1,233,397	1,100,720	1,220,842	1,176,636	1,208,163	1,062,020	1,393,333	1,435,690	1,371,420	1,368,092	1,284,180	1,278,502	15,132,989

NOTE: A number of pools formerly carried in Southwest Texas were placed in "Lower Gulf Coast" in 1934 production table.

WRITE
"Freedom from pipe Maintenance"
INTO YOUR 1935 RECORDS

The most, and the least, that can be said for screwed pipe fittings is that they served a purpose until a better type of fittings was developed.

That better type is here—*welding fittings.* As made by Taylor Forge, welding fittings are thoroughly "engineered" to the conditions that have been shown by exhaustive study to exist in actual service.

The engineered design of these fittings is typified by the features of Taylor Forge Weldells, illustrated opposite. Studies of the stresses that occur at the crotch of the fittings indicate the need of added reinforcement at this point. Taylor Forge Weldells have it! Short tangents are necessary to remove the welds from the strains that are imposed on the curved section. Taylor Forge Weldells have them!

Machine tool bevels with a uniform land are necessary to enable the welder to produce a uniform, penetrating weld. All Taylor Forge Welding Fittings—Tees, Reducing Nipples, Caps, Sleeves, etc.—have this feature as well as maintained accuracy of dimension that is equally appreciated by the man who designs the piping and the man who erects it.

Change to welding this year. The interesting story of Taylor Forge Welding Fittings is exhaustively covered in the 64-page catalog 34-1. Where shall we send your copy?

TAYLOR FORGE & PIPE WORKS
General Offices and Works, Chicago, Ill.
P. O. Box 485.
New York Office,
50 Church St.

It's time to change to Welding!

TAYLOR FORGE
Engineered
WELDING FITTINGS

ened a new producing horizon for the field, when it made 113 bbls. from sand bottomed at 3,500 feet. More recently production has been developed below 5,000 feet.

In the Bruni Townsite area of the West Cole Field, Webb County, a new deep sand proved productive, when United Production Co.'s No. 1 Bruni drilled sand from 3,410-17 feet and was completed for 34 bbls. of oil daily. This is the deepest sand to be developed in the area and to date a total of 22 producers have been completed in this new sand.

In the same county, but in the Laurel Field, South Texas Co.'s No. 12 Laurel discovered a new sand from 1,770-77 feet and was completed for an estimated 20,000,000-foot dry gas well with 600 pounds rock pressure. The other sand in the field is from 2,100-2,200 feet. Location of No. 12 Laurel is Block 4, Survey 270.

H. H. Weinert's No. 1 Grady Smith, northwestern Goliad County extended the North Pettus Field 2,500 feet east, by making 232 bbls. per day through a one-quarter-inch choke with tubing pressure 225 pounds and casing pressure 650 pounds. It topped the Pettus sand at 3,658-62 feet the total depth. Location is in the B&B Survey 25. Since the completion of this extension producer, a number of producers have been completed in the area, some of which extended the field further.

In the Driscoll Pool, Duval County, a new deep sand proved productive when Continental Oil Co.'s No. 1 R. Driscoll made 12 bbls. of oil per hour through a one-half inch choke with 30 per cent water, and showed a tubing pressure of 650 pounds and casing pressure 800 pounds. It was originally drilled to 3,461 feet and then plugged back to 3,448 feet.

Oil in a Gas Field

The Jeffries-Lambeth (Barbacoas) Field, Starr County, which was discovered as a gas field in 1933, received its first oil production by the completion of Jeffries-Lambeth's No. 2 Starr County Land & Cattle Co., when it was completed for 125 bbls. of oil daily at a total depth of 2,518 feet. The test is 800 feet southeast of the discovery well and five miles east of production in the Rio Grande City pool and on the trend running northwest and southeast through the county. The latest production report for the field showed two producing wells, making a daily production of 100 bbls.

The Southwest Texas District, with its various producing sand, and unestimated amount of unexplored acreage and the favorable indications of oil reserves, made by many wildcats drilled throughout the district, will no doubt continue to receive its share of development for many years to come.

Gulf Coast Scores New Yearly Production Peak

(Continued from Page 104)

It is located in the R. Musquiz Survey and was discovered May 31. To date development in the field has been disappointing, three wells drilled failing to find commercial production. Since the completion of the discovery well, production has fallen off considerably, as it is producing around 150 bbls. per day. The holdings of Encino Gas Co. have been acquired by the Phillips Petroleum Co. and the outlet for the field is being served by a 1-mile line from the discovery well to a loading rack at the town of Vanderbilt.

New Gas Field

In the extreme northern part of Victoria County, Texas Co. opened a new gas field by the completion of its No. 1 Midgett, a rank wildcat in Section 14, T.&N.O. Survey. It was completed for a dry gas well in the Frio sand at a total depth of 2,847 feet. The test was originally drilled to a total depth of 5,790 feet, but was plugged back and sidetracked at 1,734 feet and redrilled to its present depth. Since the discovery, the company has completed one gas well and one dry hole in the area.

Extensions and New Sands

Considerable interest was revived in some of the proven fields on the Gulf Coast, due to extensions and the discovery of new producing sands. In the Port Neches Field, Orange County, Texas Co.'s No. 2-B Polk extended the producing limits of the field to the southwest, when it made 980 bbls. per day through seven-sixteenths inch tubing choke from oil sand encountered from 5,871-5,906 feet. This is the deepest productive sand found in the field. The test was originally drilled to a total depth of 6,708 feet in sticky shale, but was plugged back and sidetracked at 3,700 feet and redrilled to a new total depth of 5,911 feet. The deepest test prior to the discovery of the new sand was around 4,400 feet. Other pay zones are found at 4,150 and 3,160 feet.

On the southeast flank of the Boling Dome, in Fort Bend County, Allied Minerals, Inc. opened up production from a new sand by the completion of its No. 1 J. R. Farmer, which was completed for an estimated 800-bbl. well from the Frio sand at 4,424-28 feet. Production, however, soon declined and the test has been worked over three different times.

At Coleto Creek, Victoria County, American Liberty Oil Co.'s No. 1 A. Prybil, R. Manchola Survey, opened the first important oil production for the field when it made 300 bbls. per day from sand at 2,796-2,801 feet. Seven wells have been completed, making a daily average of around 235 bbls. per day. The field received its first outlet late in the year, when Albert Plummer layed a 4-inch line from the field to a loading rack at Aloe.

On the southeast flank of the Batson Field, Hardin County, John Deering and others opened a new productive sand by the completion of their No. 1 Hooks for 110 bbls. per day on a three-quarters inch choke with tubing pressure 200 pounds and casing pressure 400 pounds. Production is coming from a total depth of 5,088 feet, which is considerably deeper than the old production found on top of the dome.

Other fields which received new deep productive horizons were the West Columbia, Sour Lake, Goose Creek and Raccoon Bend, the first three named being classified as salt domes, and which have been producing for several years. At Raccoon Bend, which until the past year had been producing from the Hockleyensis, found production in the Cockfield sand, which caused a revival of interest in the field. Other important extensions and additions to deep sand production were made at East Hackberry, Sulphur, Manvel and a few other fields.

At Goose Creek, Gulf Production Co.'s No. 17-A Tabbs, in the extreme northeast side of the field, opened a new producing horizon when it was deepened from a former producing sand at 3,008 feet to a depth of 4,502 feet.

Miramar Oil Corp. picked up a new sand in its No. 2 Hogg, located on the east flank of the West Columbia Field, and was completed in sand at 5,196 feet for an initial production of 700 bbls. of fluid, of which 25 per cent was salt water.

Parr and others opened up new production for the Sour Lake Field, Hardin County, when their test located on the east flank of the dome, found production in the Cockfield sand.

Conroe Drilled Up

At the end of the year, a total of 829 wells were on production in the Conroe Field, Montgomery County, making a daily average of 46,162 bbls., which represents approximately 17,500 proven acres. The field, the largest ever to be completed on the Gulf Coast, not only in size, but also in flush potential production, produced a total of 17,143,444 bbls. during the past year, making the total yield to date approximately 49,000,000 bbls.

Big Increase in Field Work in Central West Fields and Kentucky in 1934

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

The fields of Lima, Central Ohio, Indiana and Illinois, long classified as the Central West Division, together with Kentucky saw the completion of 1,336 wells in 1934 as against 872 in 1933, an increase of 464. The Central West area completed 144 more gas wells than in the year before. Following is the summarized review of operations in the big territory last year:

CENTRAL OHIO FIELD

Summary of Wells Completed in 1934

Month—	Comp.	Prod.	Dry	Gas
January	42	253	7	28
February	35	279	9	15
March	44	286	9	20
April	28	315	6	13
May	50	332	19	22
June	65	633	14	26
July	50	251	12	25
August	86	455	15	49
September	58	331	11	29
October	88	217	20	53
November	85	311	23	48
December	48	532	14	18
Total, 1934	679	4,195	159	346

Summary by Counties

County—	Comp.	Prod.	Dry	Gas
Ashland	40	74	11	16
Medina	74	528	10	14
Lorain	27	33	12	11
Holmes	22	188	6	9
Fairfield	14	0	3	11
Knox	32	303	9	17
Coshocton	31	1,327	5	4
Licking	56	863	10	12
Muskingum	32	426	9	11
Athens	31	4	10	20
Tuscarawas	15	52	2	10
Stark	70	0	10	60
Belmont	25	13	12	11
Guernsey	90	234	20	55
Carroll	1	0	1	0
Vinton	12	1	5	7
Lawrence	4	0	2	2
Wayne	9	33	5	2
Summitt	3	0	1	2
Huron	3	0	0	3
Cuyahoga	5	15	1	3
Meigs	68	4	8	59
Gallia	5	0	3	2
Geauga	1	0	1	0
Harrison	1	0	1	0
Scioto	1	0	0	1
Richland	3	0	0	3
Jefferson	1	0	1	0
Delaware	1	0	1	0
Perry	2	97	0	1
Total 1934	679	4,195	159	346
Total, 1933	378	1,643	102	202
Difference	301	2,552	57	144

LIMA FIELD

Summary of Wells Completed in 1934

Month—	Comp.	Prod.	Dry	Gas
January	6	10	1	3
February	12	125	6	2
March	4	160	1	0
April	11	60	6	1
May	7	114	1	1
June	17	164	9	2
July	8	15	3	2
August	8	98	2	2
September	9	28	2	3
October	5	52	1	1
November	14	107	1	4
December	2	5	1	0
Total, 1934	103	938	34	21
Total, 1933	123	2,344	30	42
Difference	20	1,406	4	21

Summary by Counties

County—	Comp.	Prod.	Dry	Gas
Wood	1	0	1	0
Hancock	10	126	5	1
Allen	5	155	0	0
Darke	1	0	0	1
Auglaize	1	1	0	0
Sandusky	7	4	5	1
Lucas	2	5	1	0
Ottawa	2	17	0	0
Van Wert	10	170	2	0
Seneca	7	2	1	4
Wyandot	39	389	14	8
Hardin	10	19	2	5
Shelby	3	5	2	0
Henry	3	45	0	1
Marion	1	0	1	0
Total, 1934	103	938	34	21

INDIANA FIELD

Summary of Wells Completed in 1934

Month—	Comp.	Prod.	Dry	Gas
January	17	105	6	7
February	20	114	10	4
March	9	40	5	1
April	11	15	4	3
May	14	280	7	2
June	21	395	11	1
July	19	350	10	2
August	14	151	2	5
September	18	221	5	4
October	7	155	3	0
November	24	165	9	3
December	12	200	4	4
Total, 1934	186	2,091	76	41
Total, 1933	171	1,672	63	65
Difference	15	419	13	14

Summary by Counties

County—	Comp.	Prod.	Dry	Gas
Gibson	28	680	7	5
Pike	15	217	6	4
Sullivan	9	95	4	2
Daviess	5	0	1	4
Warrick	2	35	1	0
Spencer	6	105	2	0
Perry	17	71	11	2
Harrison	2	0	0	2
Jay	14	33	0	9
Knox	15	160	9	3
Martin	1	0	1	0
Vanderburg	40	405	21	0
Madison	2	0	0	2
Hendricks	1	0	1	0
Randolph	1	0	0	1
Posey	8	215	2	0
Monroe	3	40	1	1
Greene	1	0	1	0
Hancock	3	0	1	2
Dubois	4	0	3	1
Marion	1	0	0	1
Washington	1	0	1	0
Scott	1	0	1	0
Adams	1	35	0	0
Total	186	2,091	76	41

ILLINOIS FIELD

Summary of Wells Completed in 1934

Month—	Comp.	Prod.	Dry	Gas
January	1	6	1	0
February	0	0	0	0
March	2	15	1	0
April	2	7	0	1
May	3	5	2	0
June	1	0	1	0
July	2	2	1	0
August	1	0	1	0
September	0	0	1	0
October	2	1	1	0
November	2	90	1	0
December	0	0	0	0
Total, 1934	16	120	9	1
Total, 1933	14	24	9	1
Difference	2	96	0	0

Illinois Field Summary by Counties

County—	Comp.	Prod.	Dry	Gas
St. Clair	0	0	0	0
Coles	3	90	2	0
Lawrence	0	0	0	0
Wabash	2	15	1	0
Fayette	1	0	1	0
Crawford	3	1	1	1
Clark	4	14	1	0
Clinton	1	0	1	0
Monroe	1	0	1	0
Cumberland	1	0	1	0
Total, 1934	16	120	9	1

KENTUCKY FIELD

Summary of Completed Wells in 1934

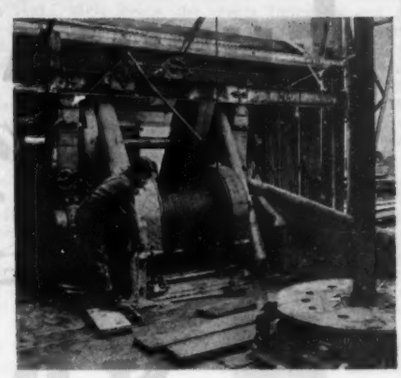
Month—	Comp.	Prod.	Dry	Gas
January	3	2	1	1
February	12	93	5	0
March	17	634	7	0
April	8	584	2	0
May	14	300	5	1
June	21	224	12	0
July	28	2,059	6	0
August	56	2,870	16	3
September	40	2,577	6	0
October	84	4,313	23	0
November	57	2,116	22	1
December	12	405	2	0
Total 1934	352	16,177	107	9
Total, 1933	186	4,485	93	10
Difference	166	11,692	14	1

Summary by Counties

County—	Comp.	Prod.	Dry	Gas
Ohio	256	12,177	74	7
Daviess	5	40	3	0
Hancock	54	2,419	15	1
Muhlenberg	1	0	1	0
Henderson	3	63	0	0
McLean	20	1,450	5	0
Allen	5	3	5	1
Warren	2	0	2	0
Barren	2	0	2	0
Logan	1	20	0	0
Total	352	16,177	107	9

That rugged J-M Giant Rotary Lining is NOW MORE RUGGED THAN EVER

● Designed especially for rotary drill rigs, J-M Type 410 Lining works better, lasts longer.



It has great resistance to wear and to heat. With a high and constant coefficient of friction, there is less lining fade, and you have *better* brakes, *quieter* brakes, with less braking effort. Smoking and dusting are reduced to a minimum. Incorporation of lead and zinc wire lessens scoring and increases brake rim life.

Truly, Type 410 Giant Rotary Lining is a giant in performance as well as name.

WRITE FOR NEW BROCHURE

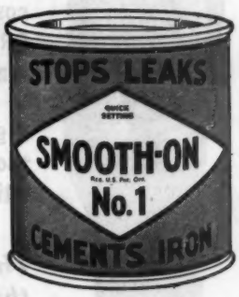
Contains complete recommendations on the full line of J-M Friction Materials. Write Johns-Manville, 22 East 40th Street, New York.

Johns-Manville

GIANT ROTARY LINING TYPE 410

"There's no excuse for that leak!"

Making joints with Smooth-On No. 1 stops the leaks before they can start.



ALL the Smooth-On No. 1 needed in 20 years for making and keeping threaded and flanged joints tight and off the trouble list, costs only a small fraction of the expense and interruption caused by one serious leak on a piece of major equipment.

Get Smooth-On No. 1 in 1 or 5-lb. can or larger keg from your supply house or if necessary from us direct.

The use of Smooth-On No. 1 as a joint filling preferably from the start, or later on reassembling, affords every assurance of perfect tightness for life.

Smooth-On No. 1 packs the voids with a metallic filling that cannot dry or blow out and will hold superheated steam, thin hot oil at any pressure and under severe vibration.

A Smooth-On joint preserves its seal until the joint is intentionally opened. Make the trial and be convinced.

MAIL COUPON for FREE BOOK

SMOOTH-ON MANUFACTURING CO., Dept. 66
570 Communipaw Ave., Jersey City, N. J.

Please Send Copy of the Smooth-On Handbook.

Name_____

Address_____

1-31-35

Do it with **SMOOTH-ON**

IN OIL TOOLS

it's strength and

ENDURANCE

that counts

GRANT

straight

REAMER

It will be worth your while to find out about this strong, powerful, reliable tool—equal to every emergency demand—a brute for punishment.

Year by year, in answer to the demand for cost-cutting profit-producing equipment GRANT has created tools that have defeated the closing jaws of competition.

A growing list of operators choose GRANT tools for economical operation and superlative performance.

The GRANT Straight Reamer has three-point roller construction—six interchangeable cutters.

Send For Catalogues

"USED WHERE PERFORMANCE COUNTS"

GRANT

OIL TOOL COMPANY

2042 E. Vernon Ave., Los Angeles

Headquarters for underreamers—endurance bits—straight-hole guides—cement heads

AMERADA PETROLEUM CORPORATION

Producers of Crude Oil

Manufacturers of Natural Gasoline

120 Broadway - New York

Tulsa - Oklahoma

Gas and Oil Possibilities of Oriskany Sandstone, Northwest Pennsylvania

By CHARLES R. FETTKE
Professor of Geology,
Carnegie Institute of Technology*

Early in the present century a small gas pool was opened up in the vicinity of Austinburg in northeastern Ohio in a sandstone occurring at the Oriskany horizon. Ten years ago, gas in commercial quantities was encountered in the Oriskany sandstone northwest of Cambridge in Guernsey County, Ohio, and a few years later, a small oil pool was opened in the same formation southwest of Cambridge. It has been the discoveries of relatively large volumes of gas in the Oriskany sandstone in the Wayne-Tyrone Pool in Schuyler County, New York, in March, 1930; in the Tioga Pool in Tioga County, Pennsylvania, in September, 1930; and the Hebron Pool in Potter County, Pennsylvania, in November, 1931, however, that has focused attention upon this formation as a potential source of gas and possibly oil throughout the Appalachian plateau province.

Outside the above pools, gas has been encountered in a well along the Harrison anticline in northeastern Potter County, Pennsylvania, and in several wells along the Smethport anticline in northern Potter County and in southeastern Allegany and southwestern Steuben Counties, New York. The extent of the productive areas in these localities has not yet been determined. Good shows of oil have been found in Allen Township in northern Allegany County and in the Knapp Creek Dome area of the Bradford Field in the southeastern part of Cattaraugus County, New York, but no commercial production has been developed in these areas to date. The recent discovery of oil in apparently commercial quantities at this horizon in Kanawha County, West Virginia, has greatly extended the territory in which the Oriskany may be considered a potential source of gas and oil.

Statigraphy

The Oriskany sandstone occurs at the top of the Lower Devonian. In northwestern Pennsylvania, it is succeeded by the Onondaga limestone and Hamilton beds of the Middle, and the Portage, Chemung, and Catskill beds of the Upper Devonian. Going southward and southeastward from Lake Erie, the rocks of the Devonian system pass beneath strata of Mississippian Age, and these in turn pass beneath the Pennsylvanian beds.

The Oriskany horizon crops out in western and Central New York State along a nearly east and west line passing through Buffalo. Along that portion of the outcrop shown on the map of Figure 1, it is represented by occasional very thin lenses of sandstone. The horizon also crops out in Central Pennsylvania not far southeast of the Allegany front. Although the sandstone has a thickness of from 60 to 100 feet along portions of this outcrop, there are stretches where it is absent entirely.

Throughout much of the Paleozoic era, the Appalachian region consisted of a slowly subsiding trough, occupied by a shallow arm of the sea, into which sediments were washed from a land mass lying to the east and southeast. Deposition and subsidence were greatest along the eastern margins of this trough. In northwestern Pennsylvania, therefore, the formations thicken relatively rapidly as one goes southeastward. This is illustrated by the series of sections shown in Figure 2. The thickening is particularly marked in the strata which comprise the upper part of the Devonian system.

Areal Distribution and Thickness of Oriskany

A sufficient number of deep wells have already been drilled to indicate that a considerable portion of northwestern Pennsylvania is underlain by a nearly continuous bed of sandstone at the Oriskany horizon. On the north, this apparently ends along a line running in a nearly easterly direction south of the city of Erie across Erie County and probably across northern Warren to about the McKean County line where it swings northeastward into New York State. The location of the line, as shown on the map of Figure 1, is based upon an analysis of the data at present available. It can be considered only a rough approximation. The same is true of the line that shows the western boundary in eastern Ohio. It is also quite probable that locally small lenses of sandstone are present considerable distances beyond the limits of the more continuous body of sandstone.

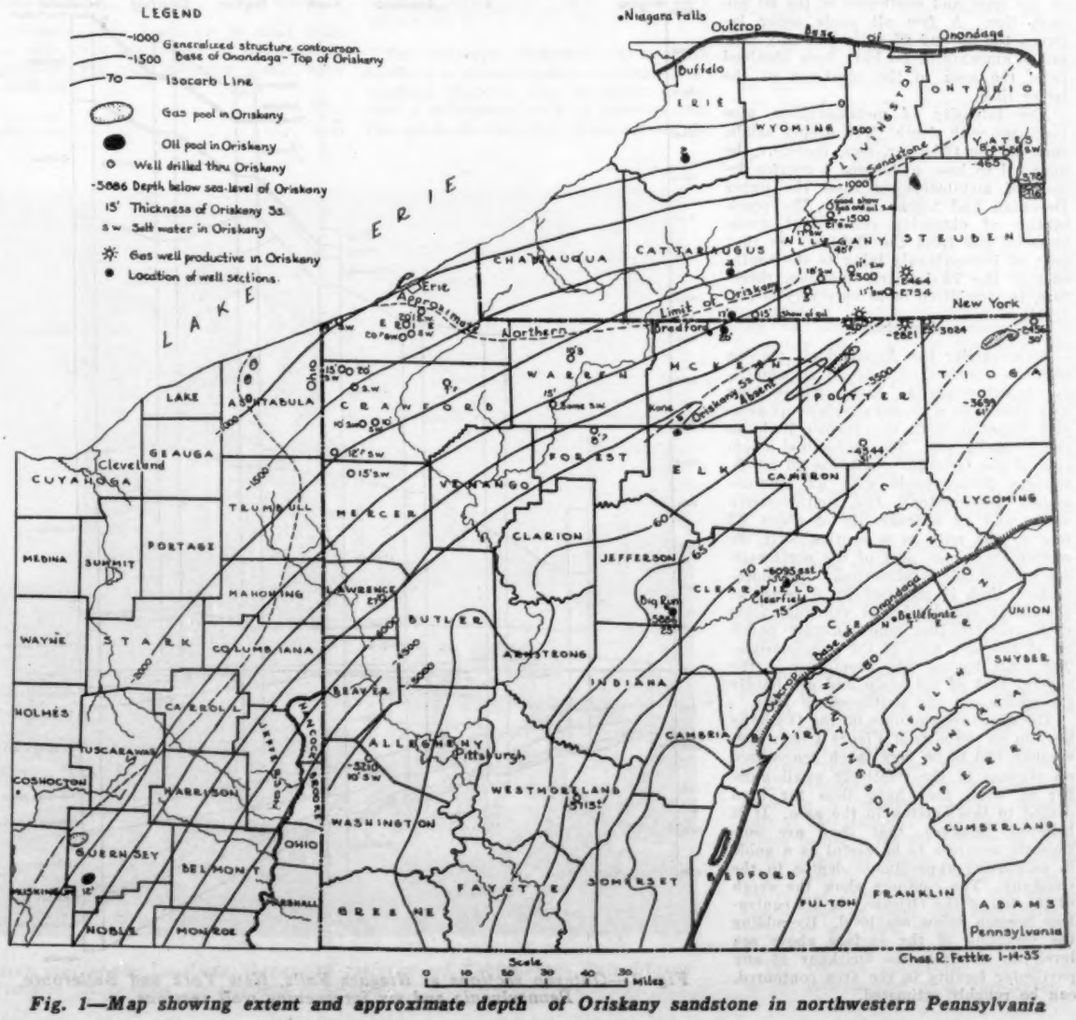
Within the main area of sandstone, deep drilling to date in western Pennsylvania has definitely established the absence of the Oriskany sandstone in only one area. This comprises a considerable part of southern McKean and southwestern Potter Counties and extends into northern Elk. The northwestern and eastern limits of this area can be roughly approximated. No information is as yet available, however, to show how far southward and southwestward it extends.

In 1920, an open flow of about 500,000 feet of gas a day was encountered at a depth of 6,822 feet at what was thought to be the Oriskany horizon in a deep well drilled by the Peoples Natural Gas Co. along the Chestnut Ridge anticline at McCance in Westmoreland County. An examination of the cuttings from this horizon and the beds immediately above it, however, revealed that the gas occurred in a cherty limestone, a few feet below black shales which undoubtedly represent the basal portion of the Marcellus formation of the Hamilton group. The cherty limestone in which the gas was encountered, therefore, either represents the Onondaga limestone or else this formation is absent entirely and the Oriskany is represented by a cherty limestone instead of a true sandstone at this locality. When an attempt was made a number of years later to deepen the well, a large flow of salt water was encountered in the limestone a short distance below the gas bearing horizon. Another well, about 500 feet from the first, drilled to a total depth of 7,756 feet, encountered only a show of gas and no water at this horizon. Unfortunately, the drillers neglected to save samples of the cuttings from the interval immediately below the cherty limestone and no definite information is available, therefore, as to whether any true Oriskany sandstone is present. The J. S. Lightcap well of the T. W. Phillips Oil & Gas Co., northwest of Marion Center, Indiana County, drilled to a total depth of 7,006 feet in 1920, probably did not reach the Oriskany horizon.

Unfortunately from the standpoint of affording a potential reservoir rock for the occurrence of gas or oil, the Oriskany sandstone in northwestern Pennsylvania nowhere appears to be very thick. Thicknesses in the wells drilled through it thus far range from 5 to 27 feet, with the average somewhat less than 15 feet.

Cementation and Metamorphism

Only drill cuttings of the Oriskany sandstone have been available for examination from northwestern Pennsylvania. In most cases, some calcium carbonate is present as a bond and some secondary silica has invariably been deposited on the original quartz grains. Both the calcium carbonate and the secondary silica have reduced the porosity of the rock and hence its capacity to hold fluids, either gas, oil, or water. In some instances the cementation has apparently been so thorough that no fluids are encountered when the horizon is penetrated by the drill. However, the fact that at a number of widely separated localities in Erie, Crawford, and Mercer Counties considerable quantities of salt water have been reported from this horizon, indi-



*Courtesy of Pennsylvania Topographic and Geologic Survey.

Fig. 1—Map showing extent and approximate depth of Oriskany sandstone in northwestern Pennsylvania

cates that in these areas at least the Oriskany sandstone must still retain a considerable percentage of its original pore space.

The degree of cementation is closely related to the amount of metamorphism that the rocks have undergone. In the Appalachian region, the thrusts responsible for the folding and uplift of the strata at the close of the Paleozoic era were directed from the southeast. The degree of metamorphism that the beds have undergone, therefore, increases progressively in that direction.

Coals are particularly susceptible to metamorphic alteration. The percentage of fixed carbon computed on a pure coal basis in the case of bituminous and higher rank coal constitutes an excellent criterion for judging the degree of metamorphism that the associated strata have undergone, the fixed carbon increasing with the intensity of the metamorphism. On the map of Figure 1 the progressive increase of the metamorphism in the coals toward the southeast is shown by the isocarb lines.

It will be noted that the Tioga gas pool, the most easterly of the Oriskany sand pools in Pennsylvania, is crossed by the 70 isocarb line. Although there has been considerable drilling on equally well defined structures to the east and southeast in both Tioga and Bradford Counties, no production has resulted. In every instance, although the Oriskany sandstone was present, it was found to be so tightly cemented that it was no longer capable of acting as a reservoir rock for the retention of fluids.

In Pennsylvania all of the major gas pools productive in the Upper Devonian and higher strata lie to the northwest of the 65 iso-carb line. Only a few minor pools have been encountered between the 65 and 70 lines and the amount of gas that has been obtained from these strata to the southeast of the 70 line is almost negligible Most of Pennsylvania's oil production has come from that area to the west and northwest of the 60 isocarb line. A few oil pools occur between the 60 and 65 lines and only very minor amounts of oil have been obtained from the area to the southeast of the latter line.

The intensity of metamorphism also increases with depth. The deeper sands, such as the Oriskany, can, therefore, be expected to have undergone a greater degree of metamorphism than the upper Devonian and higher sands. The possibilities of obtaining commercial quantities of gas from the Oriskany in that part of Pennsylvania lying to the southeast of the 70 iso-carb line can, therefore, be considered to be only very slight.

Structure

Structurally, the Appalachian plateau province consists of a broad asymemtrical synclinorium or basin, whose long axis trends in a northeasterly-southwesterly direction with the steeper limb on the southeast side. The monoclinal structure of the Oriskany sandstone in northwestern Pennsylvania with an approximately northeasterly and southwesterly strike and an average dip of about 42 feet to the mile in a southeasterly direction represents part of the northwestern limb of this synclinorium. The southeastern limb is modified by a series of prominent anticlinal and synclinal folds with axis trending approximately parallel to the long axis of the synclinorium. The folds become less prominent in the central part of the basin and are hardly perceptible on the northwestern limb.

The structure contours on the Oriskany horizon on the map of Figure 1 have necessarily had to be very much generalized on account of the relatively small number of wells that have thus far been drilled to this horizon in the area. It is believed, however, that they are sufficiently accurate to be useful as a guide in estimating approximate depths to the Oriskany. The contours show the depth of the top of the Oriskany or its equivalent horizon below sea level. By adding the elevation of the surface above sea level, the depth to the Oriskany at any particular locality in the area contoured, can be roughly estimated.

In North Central Pennsylvania in Potter and Tioga Counties gas in the Oriskany has been encountered only on well defined domes along pronounced anticlinal structures. The surface geology of northwestern Pennsylvania gives no indication of the existence of such well defined structures in this part of the State.

Cathcart's[1] recent work on the surface geology of Crawford, Erie, and Warren Counties, however, does show that structural noses (plunging anticlines), terraces (flats), and even gentle domes can be recognized in the outcropping beds. It cannot be assumed, however, that these surface structures are vertically superimposed upon similar structures at the Oriskany horizon. Convergence between the key beds at the surface and the Oriskany may considerably shift the axes and change the outlines of such structures at the deeper horizon.

Gas and oil pools are sometimes associated with minor structural features of the type referred to above that interrupt, to a slight degree at least, the otherwise monotonously uniform dip of a monoclinal structure. Areas in which structures of this type exist would afford the best chances of obtaining production in the Oriskany in northwestern Pennsylvania.

Gas and Oil Possibilities

The probable existence of a nearly continuous body of sandstone at the Oriskany horizon in northwestern Pennsylvania which, in parts of the area at least, retains a fair percentage of porosity, as witnessed by the amounts of salt water encountered in it, is the factor most favorable to the possible occurrence of commercial quantities of gas and oil. On the other hand, the sandstone is probably comparatively thin over the entire area. Large total yields per acre of productive area, therefore, cannot be expected even if future prospecting should lead to the development of commercial production.

Most important of all probably is whether or not there are sufficient prominent structures present that acted as traps and brought about a segregation from the associated salt water of gas and oil migrating up the monoclinal slope. Careful geological mapping supplemented perhaps by geophysical surveys will be necessary to discover any such structures, if they exist. Areas near the margins of the main sandstone body where this plays out up the dip and is sealed off by the overlying and underlying rocks joining can also be looked upon as favorable territory.

In spite of the fact that all of the tests to date in the area under discussion have proven failures, the possibilities of eventually obtaining some commercial production of gas and oil in this part of Pennsylvania in the Oriskany can by no means be considered to be negligible. The number of tests to date is still quite small considering the size of the area involved. Also, very few of the wells drilled in the past were located on the basis of any preliminary geological investigations.

[1] H. Cathcart, Geologic Structure of Northwest Pennsylvania Has Deep Sand Possibilities of Gas and Oil. The Oil and Gas Journal, December 20, 1934, pages 58-59.

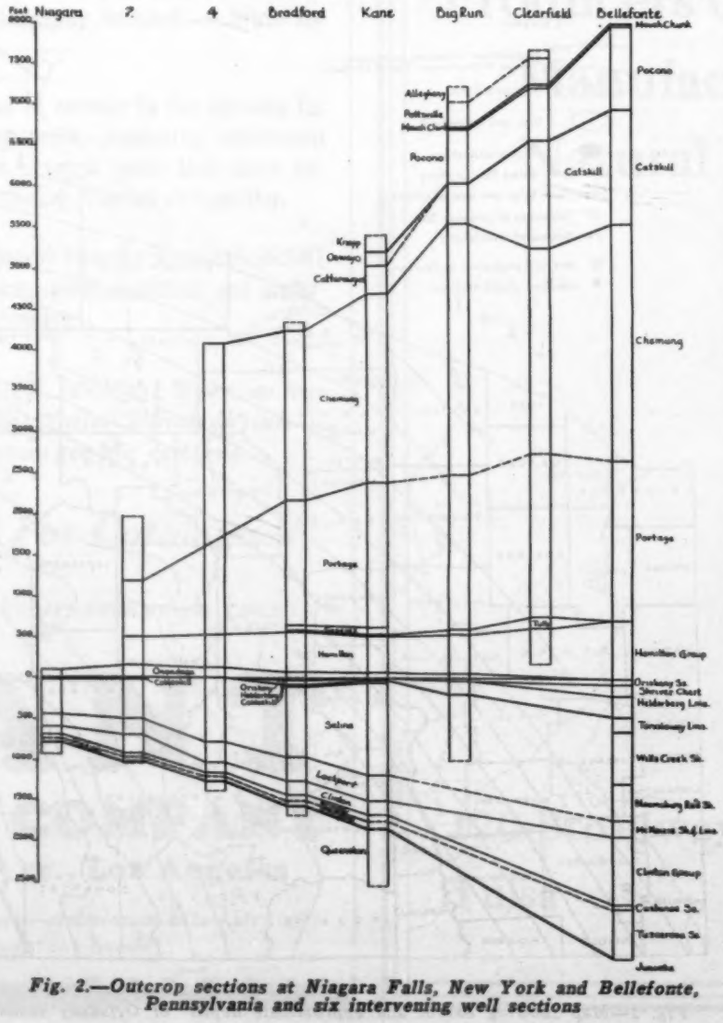


Fig. 2.—Outcrop sections at Niagara Falls, New York and Bellefonte, Pennsylvania and six intervening well sections

CANADIAN GAS PRODUCTION

OTTAWA, Canada, Jan. 26.—The output of natural gas in Canada during November totaled 1,937,526,000 feet, compared with 1,437,584,000 feet in October and 2,131,090,000 feet in November, 1933. For the 11 months ending November 30, the output was 19,421,863,000 feet in 1934 and 20,157,885,000 feet in 1933.

Imports of mixed (natural and artificial) gas into Canada in November were 9,561,000 feet worth $6,835, compared with 6,572,000 feet worth $3,943 in October.

George A. Spang Dies at Home in Butler, Pa.

George A. Spang, well known manufacturer of oil drilling tools, president of the firm of Spang & Co. and till 1932 its active business head, died at his home

GEORGE A. SPANG

in Butler, Pa., January 22, He was 66 years old.

Mr. Spang was employed for a time in Cleveland, Ohio, as a machinist but returned to Butler when the drilling excitement of 1894 started, centering in the Cooperstown district between Butler and Pittsburgh. He set up a shop for the service of drilling contractors and began to have more than a local reputation for ingenuity and reliability and took out several patents. From Cooperstown, the shop was moved to Renfrew, Pa., and enlarged. In 1899 Mr. Spang returned to Butler. Packers were just begininng to be commonly used. Mr. Spang, with others, was responsible for improvements in design and took out several patents. Later he developed a method by which drilling and fishing jars, previously made by a welding process, could be forged as units, each from a single piece of steel.

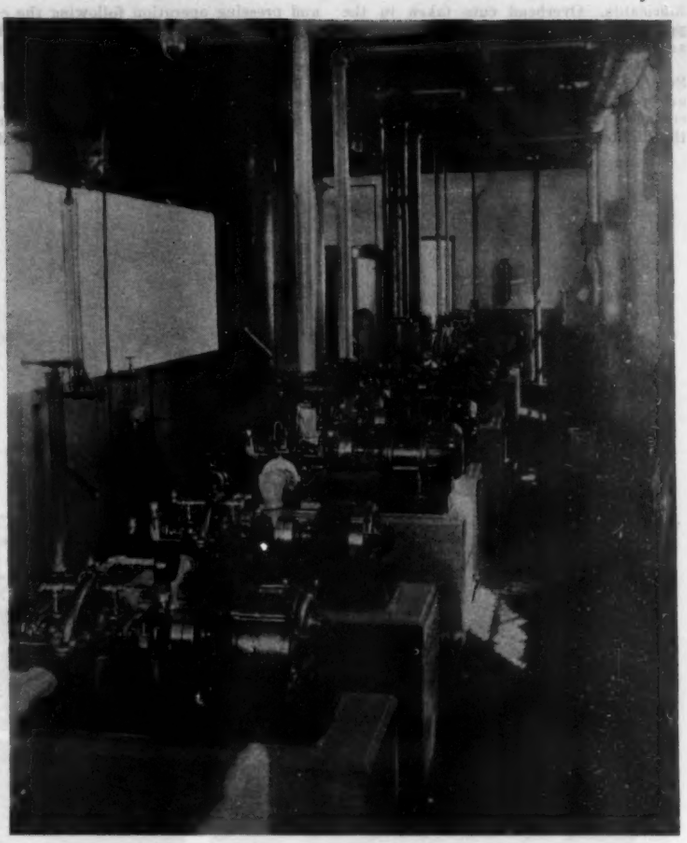
His three sons were associated with him in business. F. J. Spang has been plant manager in charge of all manufacturing for the past 10 years. L. B. Spang directs the fishing tool department, and C. E. Spang is in charge of the heat treating department.

GEOLOGY OF ARKANSAS

Through a special arrangement with the Arkansas Geological Survey the "Oil and Gas Geology of the Gulf Coastal Plain in Arkansas," by W. C. Spooner, geologist, Shreveport, La., has been made available to the firm of Parke-Harper Co. of Little Rock, Ark., and it has privately printed what will be known as Bulletin No. 2 of Arkansas Geological Survey reports.

While the work on the bulletin was started in 1927 and completion delayed by illness of the author, it includes much data that is complete up to January 1, 1934, besides comparison of reported oil produced in Arkansas from 1921 to 1933, inclusive, together with much general data upon recovery per acre with estimated future recovery. General geology of the whole area is given and detailed reports upon each county. An appendix of Merle C. Israelsky covers the "Upper Cretaceous Ostracoda of Arkansas" of special interest to the paleontologist and geologist. The book is available from Parke-Harper Co., Little Rock, Ark., or the State Department of Geology, Little Rock, Ark., for $3.80 postpaid.

Refinery in Argentina Is Now Manufacturing Full Line of Products



Pump room of the heavy oil dewaxing plant at La Plata refinery

Yacimientos Petroliferos Fiscales (Argentine Government Oilfields) during the past few months has completed major improvements and enlargements at its largest refinery located at La Plata near Buenos Aires, Argentine. The refinery, which has a rated crude oil capacity of 19,000 bbls. daily, has gradually expanded its operations over a period of years so that now a complete line of petroleum products are manufactured.

The latest improvements include a vacuum distillation unit used in the manufacture of lubricating oils and various grades of asphalt. Additions have also been made to other phases of the refinery operations including more storage facilities.

Yacimientos Petroliferos Fiscales was organized several years ago to develop producing properties owned by the government which directs its operations. It is now engaged in all branches of the industry and is one of three most important operating factors in Argentine. It has production in all the principal producing fields including Comodoro Rivadavia, Salta and Plaza Huincul.

The bulk of the Argentine's crude oil production for several years has come from the Comodoro Rivadavia area located near the coast in the territory of Chubut, in the southern part of the republic. The present total production in Argentine is approximately 38,000 bbls. daily and of this total, Yacimientos Petroliferos Fiscales is reported to produce 14,000 bbls. daily. The greater part of this company's production is obtained in the Comodoro Rivadavia Field where there are a total of 1,900 wells producing at various depths.

Comodoro Rivadavia Crude

The crude from this field which is refined at the La Plata refinery, is transported by tanker, a distance of 1,000 miles. The crude oil varies in gravity ranging from 17° to 32° A.P.I. The bulk of the production has a gravity ranging from 20° to 23° A.P.I. A representative distillation test showed the following properties:

Gravity	21°A.P.I.
Flash (Pensky Martin)	95°F.
Sulphur	.198%
Color	Black
Odor	Sweet

Running this crude oil in shell stills to coke in a distillation at atmospheric pressure and the following yields were obtained:

	Pct.
Gasoline	6.5
Kerosene	10.0
Gas oil	42.5
Nonviscous lub oil	9.5
Viscous lub oil	17.5

The refinery's operation was at first confined to skimming and cracking. Large cracking capacity was necessary to secure a substantial yield of gasoline from this grade of crude oil. Other crudes are now available in limited quantities and the operation has been rounded out to include practically all products for which there is a demand in Argentine. Due to the ownership and control the needs of the various governmental activities have been taken into consideration in designing the refinery. The asphalt production will play an important part in the plans for improved highways. Highly satisfactory asphalts and road oils have been obtained in the refinery operation in recent months.

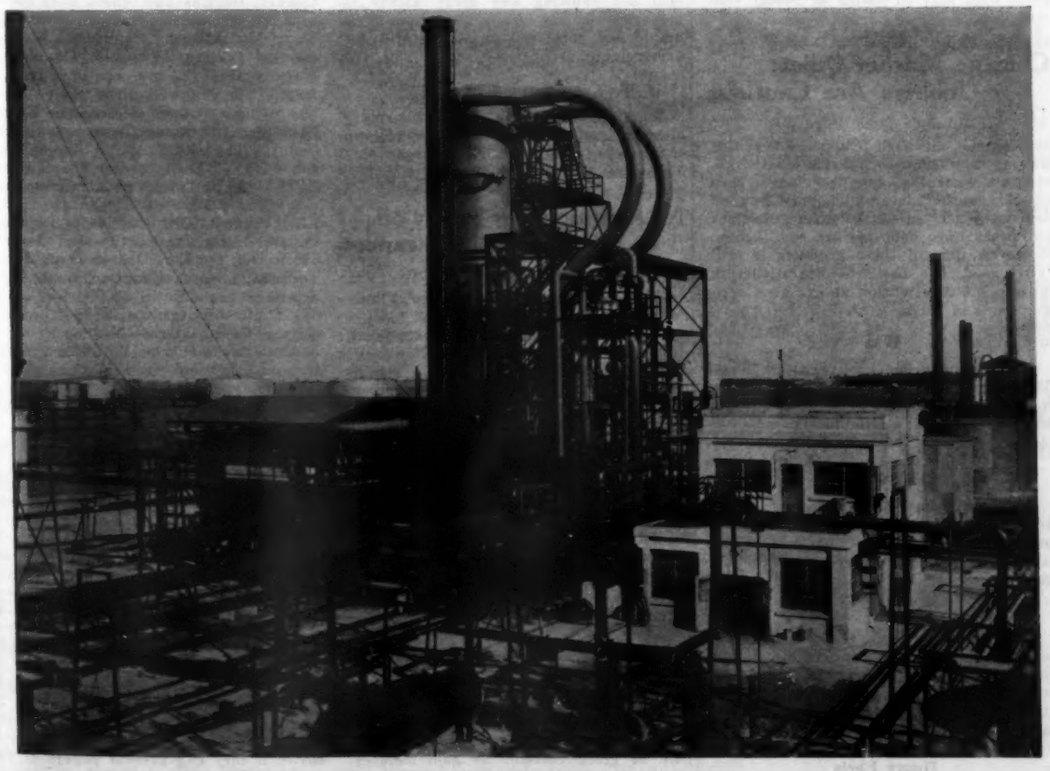
Although most of the equipment installed at the refinery was obtained from manufacturers in the United States, the construction and operation was directed by specially trained engineers of Argentina and local labor is employed. The following description of the main features of the refinery was made available by company engineers:

The refinery has both shell and pipe stills for topping the crude oil. The crude from the Comodoro Rivadavia Field contains considerable water and dehydration is necessary before the crude is topped. For the cracking operation a wide gas oil cut is taken in this primary distillation.

The refinery has four cracking units of the Cross type with a capacity of 7,000 bbls. daily. The cracked gasoline from the cracking units debutanized and stabilized and then chemically treated along with the straight gasoline cut from the topping operation. The fuel oil residuum from the cracking units is subjected to a "Goodwin" plant operation and it is then suitable as fuel for the heavy type Diesel engines. The cracked gasoline is treated from the units, is run to Gray vapor phase treating towers.

All gasoline is recovered from plant gases in a complete gasoline recovery unit at the refinery. This equipment includes facilities for the production of liquified gases for which a market is now being found in Argentina as in the United States and other countries. The residue gas is used as plant fuel and homes of employes are also being supplied with gas for cooking.

The vacuum distillation unit is used in the manufacture of a wide range of



General view of new vacuum distillation unit at the La Plata, Argentine refinery, of Yacimientos Petroliferos Fiscales (Argentine government oilfields)

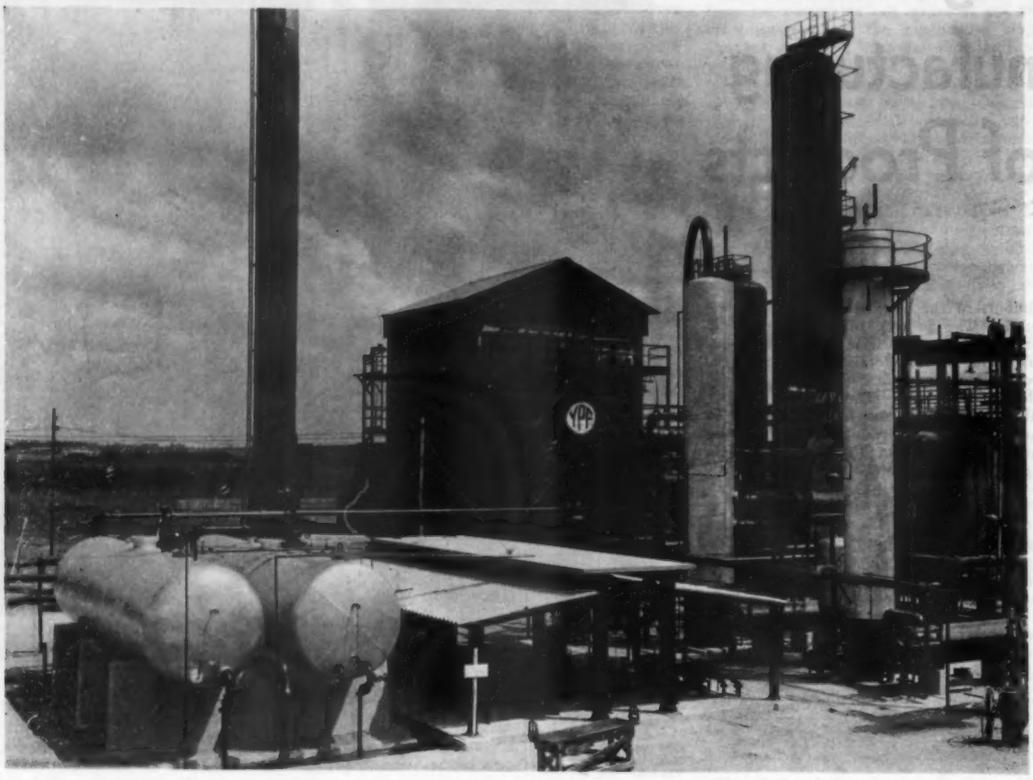
lubricants. Overhead cuts taken in the primary distillation operations are used as charging stocks.

Oils from this unit are treated with SO_2 in an Edeleanu plant. Centrifuges are used in dewaxing the heavy oils and commercial grade wax is obtained from the lighter oils in a filtration, cooling and pressing operation following the conventional operating method. York equipment is used in reducing the oils to the necessary temperatures for pressing.

The residuum from the vacuum unit operation is used for asphalt material.

Several specialty products are refined at the refinery including insecticides, emulsified oils, tractor oils, turpentine substitutes, alcohols and petroleum coke.

The refinery's facilities include two electric generating plants, machine shop, package department, complete modern laboratory, can and box making plant. The company has built a large number of houses for employes.



Cracking unit and debutanizer at La Plata refinery

Wilshire Oil Will Build New California Refinery

(Continued from Page 28)

approximately 1,750,000 bbls. of cracking stock and this will be further augmented between now and the time that the cracking plant is put into operation. During 1934 the Wilshire company sold a little more than 45,000,000 gallons of gasoline and will exceed this amount during 1935 if present plans materialize. The new refinery and cracking plant should be completed within six months after the start of work and if nothing retards construction the new units should be put into operation about the middle of August.

Cost of the new expansion program is expected to approximate $750,000, although the exact amount will not be known until the bids are all in and the awards made. This new construction work is of particular interest because it tends to indicate that the present Vernon plant will be dismantled despite the fact that no definite decision has been reached along that line. It is quite obvious, however, that the company would not have any use for it as the new plant would prove ample to meet refining requirements and the old plant would be superfluous.

Dismantling of the Vernon refinery would necessitate the removal of 10 steel tanks having a capacity of 80,000 bbls. each along with a multitude of smaller containers. The new plant at Santa Fe Springs, in contrast with the Vernon refinery, will be a compact unit and therefore more susceptible of economic operation. The Vernon plant is bisected by several public thoroughfares and is thus spread out over a large area with no apparent arrangement of equipment as far as operations are concerned. This is due to the fact that the plant was erected a number of years ago and subsequently remodeled and reconditioned. This did not permit a normal layout and thus the arrangement of equipment does not conform with that in plants of recent construction.

Chicago Market Quiet; Jobbers Are Cautious

(Continued from Page 30)

heating oils, although it appears that this was just in time to prevent some substantial softening suppliers have been running rather large and only a good demand generated out of large consumer purchases have kept market equilibrium. However, tone of these products is still fairly good. The distillates are attracting quite a bit of attention as are good zero gas oils and fuels.

Wax

Wax is quiet but unchanged in price. The situation is hardly so favorable as it was some months ago. Material has been in gradual accumulation most of that time, export business being slower.

Lubricants

Lubricants have been running about unchanged on a limited volume of business. Recent firming of eastern bright stocks is considered a favorable development.

Coke

Petroleum coke is in good seasonal demand, and there appears to be ample call to take care of the current available supply. Prices are running about unchanged from the last few weeks, but tone is strong and steady.

Heavy Fuels

Steel industry operations, and those of some other heavy industries are gradually stepping up to the extent that more attention is being paid to the heavy fuels and gas oils. Prices on these products are still not showing any great ability to move ahead, however, since offers seem ample and total purchases are still not overly large.

Naphthas

Naphthas and solvents are a bit spotty although ruling prices on the general run of business is unchanged. Rubber solvents have come in for good demand recently.

NRA Announces Policy on Advertising Allowances

(Continued from Page 28)

desired to regulate advertising allowances:

"No member of the trade/industry shall designate as an 'advertising allowance', a 'promotion allowance', or by a similar term, any price reduction, discount, bonus, rebate, concession, or other form of allowance, or any consideration for advertising or promotion services, offered or given by him to any customer.

"No member of the trade/industry shall offer or give any consideration merely for 'pushing', 'advertising,' or otherwise than for definite and specific advertising or promotion services. Such consideration shall be given only pursuant to a separate written contract therefor, which contract shall specifically and completely set forth the advertising or promotion services (in such manner that their specific character may be understood by other members of the trade/industry and their customers) to be performed by the recipient of said consideration, the precise consideration to be paid or given therefor by said member, the method of determining performances, and all other terms and conditions relating thereto."

New York-Pennsylvania Gas Field Developments

WELLSBORO, Pa., Jan. 28.—Three completions in Potter County sum up the high points in the New York-Pennsylvania gas belt activities during the week ending January 25. Lycoming Natural Gas Corp. completed its No. 1 W. B. Hemphill, Hebron Township, for 9,600,000 feet, at a depth of 4,972 feet. The Tully sand was reached at 4,961 feet. Sylvania Natural Gas Corp. completed its No. 2 John Higley, same township, for 2,500,000 feet at 5,237 feet. The sand was encountered at 5,192-5,215 feet. Lycoming abandoned its location on the Earl Pye farm, Genesee Township, Potter County. Sylvania began digging cellars for its Nos. 1 and 2 Z. L. James, Allegany Township, Potter County. The location of the first 500 feet from south line, 500 feet from west line, and the second, 500 feet from north line and 1,845 feet from west line.

East Penn Development Co. is having some trouble at its test on the Presbyterian Church property, Shippen Township, Tioga County, where a fishing job is holding up operations at 4,491 feet. E. Cabot, who failed to reach the pay at 6,253 feet, is shut down on the W. F. Burroughs farm, Gaines Township, Tioga County. Work has not started on Potter Development Co.'s No. 2 Penn State, projected twin for the 28,000,000-foot No. 1, Hebron Township, Potter County.

United Producers is drilling at 625 feet on its J. Ruppert test, Hebron Township. J. B. Reed is still shut down on the George C. Page farm, Allegany Township, Potter County. Updegraph is spudding on the O'Donald farm, Genesee Township, same county. Hanley and Bird are drilling at 615 feet on the Effie Slingerland farm, Allegany Township, same county. Penn United is spudding on the A. J. Carpenter farm, Hebron Township, same county. Same company is drilling at 492 feet on the A. Sturdevant farm, same township. Potter Development Co. is spudding in its No. 2 B. L. Langworthy, same township.

New York Operations

In the New York fields there was one new location, four wells drilling, and three shut down. Belmont Quadrangle Development Co. made a location for its No. 1 Taylor, Leon Township, Cattaraugus County. Higgins and others were drilling at 2,728 feet on the Stadman farm, Allen Township, Allegany County. In the same county, Willing Township, Cunningham Natural Gas Co. was drilling at 1,710 feet on the Maxwell farm. Harry Erwin was drilling at 2,955 feet on the Edward Fisk farm, Thurston Township, Steuben County. The Elk sand in this test was found at 1,331 feet, and the Tully at 2,525-70 feet. Walters and Haughey were drilling at 1,420 feet at their No. 2 Seth Allen, Tyrone Township, Schuyler County. A. B. Button is still shut down at 810 feet on the Earl Dodson farm, Junius Township, Seneca County. Trumbull and others are shut down at 900 feet on the W. B. Lasher farm, Throop Township, Cayuga County. Great Northern Gas Co. is shut down on the Van Orman farm, Briston Township, Ontario County.

OIL AND GAS POWER MEETING

The Oil and Gas Power division of the American Society of Mechanical Engineers will hold a national meeting in Tulsa, May 8 to 11. The Mid-Continent Section, Hollis P. Porter, chairman and the Petroleum Division, William G. Heltzel, chairman, will co-operate with the program committee for the Oil and Gas Power Division and arrange for a series of papers presented by Petroleum Division members on the economic trend of prime movers for producing oil from wells and on Diesel engines for oil pipe line service. Tentative subjects for 10 papers have been selected and submitted to the general program committee for approval and engineers qualified to write upon these subjects have been asked to advise if they can present papers at this meeting. The program will be announced as soon as the committee completes its work of arranging details.

Standard of New Jersey Stockholders Get Dividend Based on Skelly Stock

NEW YORK, Jan. 26.—The action of the Standard Oil Co. of New Jersey this week in announcing plans to distribute its common stock interest in the Skelly Oil Co. through the medium of the Mission Corp. following similar action in the case of the Tide Water-Associated Oil Co. has brought considerable comment in local financial and oil circles. The stock ownership in the Skelly company, a leading operator of the Mid-Continent and the Middle West, was not generally known and this fact has brought suggestions that the New Jersey company may also have interests in other independent units.

The divestment of its interests in the Tide Water-Associated and Skelly companies has been tied with the revival of reports that the parent New Jersey Standard was preparing to acquire through merger one or more of the remaining Standard units. The companies most prominently mentioned are the Standard Oil Co. of Kentucky, a marketing company operating in several southern states, and the Standard Oil Co. of Ohio, whose refining and marketing operations are principally confined to Ohio. Such mergers it is said would involve the question of whether or not they were a violation of the dissolution decree of 1911 and would have to be approved by Federal courts. This procedure was followed in the case of the merger of the Standard Oil Co. of New York and the Vacuum Oil Co. a few years ago. Both of these companies were part of the original Standard Oil Co., but were permitted to merge into the present Socony-Vacuum Oil Co., Inc., after a court hearing had determined the consolidation was not a violation of the decree of 1911 or the provisions of the Sherman anti-trust act.

It is assumed in this connection that stock ownership in Tide Water-Associated and Skelly companies might prove a hindrance in securing approval of a consolidation of the New Jersey, Kentucky and Ohio Standard units. A major requisite in obtaining such an approval it is pointed out, would be to show that such a merger did not involve the consolidation of operating units which are now competitive in the sale of products.

At present the Standard Oil Co. of New Jersey through its Esso organization does not sell its products in the territory covered by the Standard of Ohio and the Standard of Kentucky. Its refineries do supply under contract the bulk of the products distributed by the Kentucky Standard in the five states in which it operates (Georgia, Alabama, Mississippi, Florida and Kentucky.) Such a merger, should it materialize, would enlarge the present Standard of New Jersey domestic marketing operations which are carried on under the name of the Esso Marketers to include all states east of the Mississippi River with the exception of Indiana, Illinois, Michigan, Wisconsin and Minnesota, which are part of the Standard of Indiana territory.

No Official Comment

Officials of the companies concerned have refused to comment on possible mergers. Speculation in regard to a consolidation of the remaining Standard units started three years ago when it was officially announced that negotiations were under way between the Standard of New Jersey and Standard of California. About a year ago it was announced that these negotintions had been suspended. Before these latter negotiations ended it, was thought that the final objective in mind was nation-wide domestic distribution with uniformity of trade names.

Other local comment is to the effect that the action taken by the New Jersey Standard in regard to Tide Water-Associated and Skelly companies has nothing to do with any possible plans in regard to mergers with other Standard units but has been brought about by conditions which have brought changes during the past two years in the operating policies of the major Standard unit. The policy, it is said, is to confine investments to those companies in which it holds a controlling stock interest and whose operations are directed by the parent company. Federal legislation applying to securities and taxes and rulings of commissions over the past 18 months have also tended to stress the desirability of simplifying corporate structures as much as possible. This development has been reflected in changes made by other major and semi-major oil companies in recent months.

Official Statement

The official statement issued by the Standard Oil Co. of New Jersey in regard to the distribution of the Skelly stock was as follows:

"In addition to the 1,050,000 common shares of Mission Corporation recently issued by that corporation to the Standard Oil Co. in exchange for 1,128,123 shares of common stock of Tide Water-Associated Oil Co., Mission Corporation has issued 349,345 shares of its common stock to Standard Oil Co. in exchange for 557,557 shares of common stock of Skelly Oil Co.

"The dividend action will affect the distribution of such additional 349,345 shares of Mission stock among the stockholders of Standard Oil Co.

"Mission Corporation has agreed to issue scrip certificates to represent fractions of shares to which stockholders of Standard Oil Co. will be entitled upon payment of the dividend.

"Definite information in connection with this scrip will be made available at the time of the distribution of the dividend.

"Skelly Oil Co. stock now owned by Mission Oil Corporation represents an investment made some time ago by one of the subsidiaries of Standard Oil Co. and recently acquired by the latter company for the purpose of making this distribution."

The latest statement of the Skelly Co. which was for the end of 1933 showed that there were 1,008,549 shares of common stock outstanding of which 897,179 shares were in the hands of the public. It is not known just when the Standard acquired the stock interest or through what subsidiary. The action in effect means that the Mission Corp., a holding corporation, will own approximately 20 per cent of the common stock of the Tide Water-Associated Oil Co. and approximately 50 per cent of the Skelly Oil Co.

The transfer of the Skelly interest is to be accomplished through a special dividend in the form of one share of the Mission Corp. stock for each 75 shares of Standard, payable March 15 to stock of record February15. Should Skelly stock continue to be quoted around its present levels at the time the dividend is distributed the actual cash value to Standard of New Jersey stockholders will be approximately 10 cents a share. The Tide Water-Associated was distributed on a basis of one share of Mission Corp. for 25 shares of Tide Water Associated. The cash value of this distribution was approximately 40 cents per share on the Standard of New Jersey stock.

The Mission Corp. was originally formed by those closely associated in the management and ownership of the Tide Water Associated Oil Co. The corporation entered into a contract with the Standard of New Jersey to buy the latter's 20 per cent stock interest in the Tide Water Associated. After substantial payments were made, the stock of the Mission Corp. reverted to the New Jersey company when it became impossible to carry out the contract following a collapse in the stock market.

You don't have to guess at it

You know what oil you are running, how much gasoline you make, what its octane number is and what you get for it.

Parsons will design and build you a Dubbs cracking unit to fit your special needs. He will tell you how much gasoline it will make and what the octane number will be.

You will know how much more you can get for the added anti-knock value and the added gasoline.

Parsons will guarantee his performance—and so will Universal Oil Products Company.

PARSONS

THE RALPH M. PARSONS CO.
MT. VERNON, OHIO

Loma Nova Field, East of Government Wells, Is Attracting Attention in Southwest Texas Area

SAN ANTONIO, Tex., Jan. 28.—Interest in Southwest Texas has turned to the new Loma Nova Field, east of the Government Wells Field, where Humble Oil & Refining Co.'s No. 1 Vela has extended the producing limits of the field 1 mile west, by showing considerable oil on a drill stem test. It cored sand from 2,788-96 feet, the total depth, and on a 20-minute drill stem test the operators recovered 1,000 feet of pipe line oil, with the pressure building up to 450 pounds. Seven-inch casing has been cemented at 2,785 feet and it is due to be tested early this week.

The discovery well, Humble Oil & Refining Co.'s No. 1 Ruiz, in Section 553, B.S.&F. Survey, was completed the latter part of December for an initial production of 10 bbls. of fluid per hour of which 75 per cent was salt water, from sand bottomed at 2,792 feet. If the extension test makes a good commercial well, this new area is expected to be the scene of considerable activity. Two new tests are under way, these being Humble Oil & Refining Co.'s No. 2 Vela, Survey 42, and Magnolia Petroleum Co.'s No. 2 Herbst, located a half mile south, and the same distance west of the discovery well. The company's No. 1 Herbst, located 1 mile south, was abandoned a few weeks ago.

Another Possible Extension

East of the North Kohler Field, in the same county, another extension has apparently been registered by the showing made by Peacock and others' No. 1 C. W. Sutherland in Survey 188. The operators cored 5 feet of saturated sand from 2,361-66 feet, and are now running casing for a test. In the Hoffman gas area, northern part of the county, Southwest Drilling Co.'s No. 1 Cuellar in Survey 114 has been abandoned at 3,008 feet. This is the fourth abandonment for this area, which at the present time has two gassers. W. C. McBride's No. 1-B Hagist, a wildcat test in the northern edge of the county, tested salt water in the Government Wells sand at 2,164 feet and is coring ahead for the Mirando sand. It offsets the same operators' No. 1-A Hagist, that lost the hole after it had encountered a good showing of oil at 2,164 feet.

Five locations and three completions were registered for the West Tuleta Field, Bee County, Houston Oil Co. has derrick up for its Nos. 3 and 4 Strauss, No. 3 Strauss being location in the center of Lot 2, Section 20 and No. 4 Strauss in the center of Lot 3, Section 9. Mills Bennett Production Co. has derrick up for its No. 2 Roy Harris, located 660 feet west of its No. 1 in Section 9. Heyser & Heard's No. 2 Walton is located 660 feet north of their No. 1 Walton. It is drilling below 3,681 feet. Hasselman and others' No. 1 Sparrow is located in Section 20.

Heyser & Heard's No. 1 Walton, in Section 20, topped the Pettus sand at 3,949 feet and was cored to 3,966 feet, the total depth, where it was completed for 6 bbls. per hour through a three-sixteenths-inch tubing choke with tubing pressure 1,200 pounds, and shut in casing pressure 1,350 pounds. On the east side of the field, Mills Bennett Production Co.'s No. 1 Tuleta Mercantile Co. in Section 10, cemented 7-inch casing at 3,899 feet and was completed for an initial production of 11 bbls. per hour through a three-sixteenths-inch choke, with tubing pressure 550 pounds and shut in casing pressure 1,325 pounds. On the west side of the field, two tests were preparing to cement casing after making favorable drill stem tests. Houston Oil Co.'s No. 2 Strauss, Section 9, Block 6, topped the oil sand at 3,983-3,990 feet, the total depth, and on a drill stem test it showed 200 feet of oil with 225 pounds of working pressure through a one-quarter-inch choke on bottom and a three-eighths-inch choke on top. E. M. Jones' No. 4 Skinner & Harris, Section 10, topped the Pettus sand at 3,933 feet and cored to 3,945 feet, where it showed 130 feet of oil and 350 pounds of working pressure through a one-quarter-inch choke on top and bottom.

Caesar Field

In the Caesar Field, Bee County, Luling Oil & Gas Co.'s No. 5-B Ruhmann, Block 39, W. F. Hodge Survey, 2 miles northeast of Firm Oil Co.'s No. 1 Grissom, which extended the producing limits of the field southwest, topped saturated sand at 3,074 feet and was cored to 3,086 feet, the total depth, where it was completed for 450 bbls. per day through a one-quarter-inch choke, with 150 pounds of pressure. The completion of this test proves the field for a distance of 2 miles northeast and southwest. Around the extension test of Firm Oil Co.'s No. 1 Grissom, Luling Oil & Gas Co. is rigging up for two offsets. Its No. 3 R. T. Miller offsets the well to the north, and No. 1 Hudman offsets it to the southwest.

North of the Holxmark gas area, Bee County, the wildcat test of L. W. Stieren's No. 1 Fox, is shut down at 3,440 feet after coring salt water sand from 3,436 feet. At 3,436 feet the operators made a seven and one-half minute drill stem test from 3,423-36 feet, which showed 35 feet of drilling mud with a slight show of oil and a brackish taste through a one-quarter-inch choke on bottom and a five-sixteenths-inch choke on top. Working pressure registered 350 pounds.

In the Barbacoas Field, Starr County, two tests were preparing to core ahead after testing salt water. Conway and Emanuel's No. 1 Starr County Cattle Co., Porcion 89, Block 57, cored sand from 2,296-2,302 feet and on a drill stem test it showed 200 feet of salt water in 15 minutes through a one-quarter-inch choke on bottom and a five-sixteenths-inch choke on top. The other test was Merren, Bond and Johnson's No. 3 Starr County Cattle Co., Porcion 89, Block 37. It made a drill stem test from 2,507-19 feet and recovered 520 feet of salt water. Another test from 2,695-2,707 feet showed 210 feet of salt water with a show of oil.

R. H. Vise and others' No. 1 E. B. Carruth, Porcion 91, Share 1-B, is reported to have had a showing of oil from 3,585-92 feet, but no test will be made as the operator will carry the hole to 4,000 feet and then make an electrical coring test.

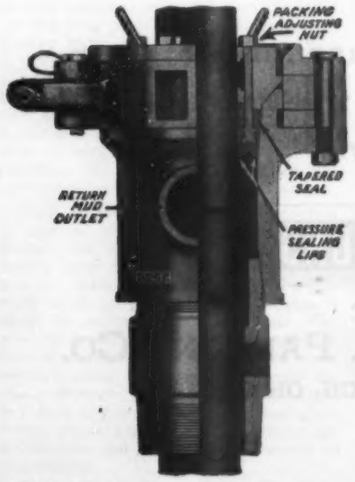
Sam Fordyce Field

The Sam Fordyce Field, southwestern Hidalgo County, was extended another 600 feet south and 400 feet east when Moncrief & Showers' No. 1 C. E. Smith, Porcion 41, Share 3-B, made 3 bbls. per hour through a one-quarter-inch choke from a total depth of 2,762 feet. Tubing pressure registered 400 pounds. Three other completions were made in the field. Rogers Oil & Gas Co.'s No. 1 F. Guerra, Tract 254, Porcion 40, encountered the sand from 2,750-60 feet and was completed at a total depth of 2,764 feet for an initial production of 12 bbls. per hour through a one-quarter-inch choke, with tubing pressure 225 pounds. Southeast of the discovery about 5,100 feet, Weekly Oil Co.'s No. 2 Smith, Porcion 40, Tract 278, gauged 104 bbls. in 24 hours through a one-eighth-inch choke, with casing and tubing pressure 350 pounds. Saturated sand was cored from 2,746-52 feet. Alamo Drilling Co.'s No. 1 F. B. Guerra, Tract 254, Porcion 40, encountered sand from

NO MORE BLOWOUTS

while drilling, running or landing pipe . . . .

With this Safe Combination of

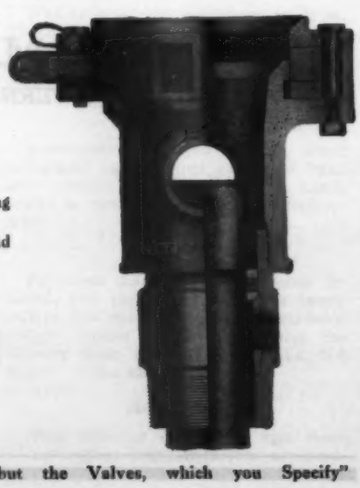


2 PROVEN PRODUCTS

O-C-T Type "D' Preventer

O-C-T Type "L" Bradenhead

This new method of swinging casing before cementing is protection while casing is being run and landed . . . . eliminates backing out last joint and cutting correct length casing nipple . . . . Prevents hanging pipe string on elevators or rotary slips while cement is hardening. The whole job can be safely packed at all times.



ABOVE: Preventer closed around casing and sealed off.

RIGHT: Casing suspended on Bradenhead packing, ready for cementing.

OIL CENTER TOOL CO.

QUALITY O-C-T PRODUCTS

HOUSTON, TEXAS, U.S.A.

Selling through Supply Stores

"Everything for the Christmas-Tree but the Valves, which you Specify"

Wildcat Operations in Southwest Texas

Week Ending January 26

BANDERA COUNTY

W. B. Kyle et al's No. 1 Duke, 300 ft. NW line, 150 ft. SW line of J. A. Bennett Sur. No. 7.
Waiting on rig; drlg. wtr. well.

Plateau Oil Co.'s No. 1 Garrison, G.C.&S.F. Sur. No. 506, 1,500 ft. from N and 2,700 ft. from E lines of survey.
Cmtd. csg. 1,181 ft.; moving in material.

BASTROP COUNTY

G. L. Cline's No. 1 D. B. Lane 100 ac., 150 ft. N and W lines of Sandifer Sur.
Abd. 250 ft.

Marts & Beavens' No. 2 Ray Rivers, 1,850 ft. from SE line, 2,050 ft. from NE line of Eliz. Sandifer Sur.
Coring Serpentine 1,825 ft.

BEE COUNTY

Dirks Bros.' No. 1 Foley, 330 ft. N and W lines of Kellar Sur.
Drlg. 2,500 ft.

Arthur W. Gray's No. 1 Rutledge, 3,322 ft. from N line, 250 ft. from E line of 200-ac. tract in B. Q. Hadley Sur.
Location.

Cecil Hagan's No. 1 John R. Scott, 1⅛ mi. NE of Morgan test.
Coring 3,700 ft.

R. M. Herod's No. 1 Kimball, 810 ft. from E line, 150 ft. from N line of 110-ac. tract in S. Winship Sur.
Derrick.

Mid-Continent Crude Oil Co.'s No. 2 Kimball (Grayburg area), S. Winship Sur.
T.D. 3,555 ft.; P.B. to 3,300 ft.; milling out.

L. W. Stieren's No. 1 Fox, N offset to Worth's No. 1 Rutledge.
Coring 3,560 ft.

Worth Oil Co.'s No. 1 Rutledge, 1,000 ft. from N line and 250 ft. from E line of A. Hadley Sur.
Fishing 3,424 ft.; (correction).

BEXAR COUNTY

Campbell's No. 1 Cantu, offsetting Meador's No. 1 Cantau, 150 ft. SW line, Arocha Sur. No. 15.
Drlg. 429 ft.

N. G. Carter's No. 1 Ruiz, western part of county; (work over).
T.D. 1,710 ft.; standing.

C. A. Ingersoll's No. 1 Mann, S of Von Ormy in John Christopher Sur.
Rigging up.

Jones & Kieffer's No. 1 LaGrane, NW cor. of tract, 210 ft. each way, F. Rolen Sur.
Set packer at 586 ft.; working on test.

Geo. O'Neil's No. 1 Holly Crouch, NW cor. of 150-ac. tract.
S.D. 1,302 ft.

Duke Phillips' No. 1 Anna Lieck, 450 ft. SE line, 3,500 ft. NE line of 223-ac. tract, J. Liech Sur.
Drlg. 766 ft.

BROOKS COUNTY

Helmrich & Payne's No. 1 Scott and Hooper, 1,320 ft. N and E lines of Blk. 44, Palo Blanco grant.
Drlg. 1,023 ft.

CALDWELL COUNTY

Kurz Oil Co.'s No. 1 Kurz ranch fee, 4,600 ft. SW line, 4,300 ft. SE line of Barnard Klecamp Sur.
S.D. 4,106 ft.

DEWITT COUNTY

Lefevre & Spice's No. 1 A. C. Wilkins, 660 ft. from N line, 420 ft. from W line of 200-ac. tract, in James Ross Sur.
Rigging up.

(Continued on Page 127)

2,756-60 feet and was completed at a total depth of 2,760 feet for 5 bbls. per hour. Seven-inch casing was cemented at 2,755 feet. These completions bring the total number of producers in the field to 30.

Several interesting blocks are being taken throughout the various counties in the district, which are due to be tested in the near future. Three miles southeast of Karnes, Karnes County, and centering around the William Dixon Survey, Henderson & Harvey have assembled a 1,250-acre block and will drill a 3,500-foot test. It is reported that Sid Wheeless took a 10-year paid-up lease on approximately 22,000 acres between the Love ranch and the town of Kerrville, Kerr County, paying a reported price of $1 per acre.

Approximately 4 miles northwest of Oakville, in Live Oak County, the Texas Co. has assembled approximately 3,000 acres of the Shultz Live Stock Co. land, in the William J. C. Pearce Survey, and it is reported that the company is obligated to drill a test on the block. H. F. Grim and others' No. 1 Fitzsimmons, a wildcat test in Duval County, which has been shut down for some time at 1,100 feet, has been taken over by W. L. Pearson and others who will drill the test to 5,000 feet. It is located about 8 miles northwest of San Diego. The Sun Oil Co. is reported to have purchased 2,000 acres around the test, subject to the 5,000-foot contract. On the Duval-Webb County line and in the Cole Field J. M. Anderson and others are reported to be preparing to drill three tests immediately in this area, two of which will test the Cockfield horizon, while the other will be drilled to the Cole gas sand at 1,700 feet.

In the north end of Zapata County, E. H. Stickney, has completed a 7,000-acre block of the Uribe lands, beginning 1½ miles east of San Ignacio in the Barrego grant. In the southern part of the county F. G. DeLaney will drill a test on his 2,357-acre block in Share 7 of Porcions 33 and 34, approximately 8½ miles southeast of Zapata.

Preliminary A.I.M.E. Program Prepared for New York Meeting Feb. 18-21

NEW YORK, Jan. 26.—A symposium on the use of metals in the petroleum industry at a joint meeting of the Petroleum and Metals Divisions will be one of the interesting features of the 144th meeting of the American Institute of Mining and Metallurgical Engineers to be held here February 18 and 21.

Due to the increasing interest of all branches of the oil industry in metals because of their direct relationship to many construction and operating problems, the officers of the institute decided to arrange for the joint meeting of the two divisions which will be held Thursday, February 22. Two sessions will be held and in addition to the prepared papers opportunity will be given for a general discussion of any problems submitted by those in attendance. The morning program will be devoted to the use of the metals in the refining division and the afternoon to the production division. The Iron and Steel Division will participate in the afternoon meeting.

A session of the Petroleum Division has been arranged so that the Thursday symposium will not interfere with other features of the program. It is anticipated that a large number will be in attendance from both the metals and petroleum industries. The following papers for the symposium have been announced.

"The Corrosion Problem," by J. E. Pollock.

"Heat-resisting Alloys," by W. F. Furman.

"Heat Interchangers and Condensers," by H. L. Bedell.

"Refinery Pumps," by A. E. Harnsberger.

Development in Pipe and Tube Products," by E. C. Wright.

"Sucker Rods," by B. B. Wescott.

The first meeting of the Petroleum Division will be held Tuesday morning, when the meeting will be devoted to production engineering. The economics session will be held Tuesday afternoon and Wednesday will be devoted to a symposium on domestic and foreign oil production. All sessions will be held at the Engineering Societies Building, 29 West Thirty-ninth Street.

A program is being arranged for the annual dinner of the Petroleum Division which will be held Thursday evening at the Commodore Hotel. The members of the division will participate in a number of other special features which have been arranged for the four-day meeting for all members of the institute. Special entertainment for ladies has been provided.

The program of the Petroleum Division, in addition to the symposium on metals in the petroleum industry and the symposium on oil production is as follows:

Petroleum Division

Tuesday Morning—Production Engineering

"Influence of Well Diameter Upon the Pressure Gradient and Rate of Flow of Oil Through the Reservoir Rock in the Vicinity of a High Pressure Flowing Well," by L. C. Uren, J. Domercq, Jr., and J. Mejia.

"Fundamentals of Casing Joint Design and Field Application," by J. B. Graham and E. E. Smith.

"The Study of Pumping Principles by Means of an Electrical Analogy," by Emory Kemler.

Tuesday Afternoon—Economics

"Collective Planning in the Petroleum Industry," by Joseph E. Pogue.

"Domestic Consumption of Motor Oil," by Albert J. McIntosh.

"Forecasting the Relative Price Movements of Petroleum Securities," by Norman D. Fitz Gerald.

"Futures Trading in Crude Oil and Gasoline," by J. Elmer Thomas.

Texas February Output Increased 11,727 Bbls.

AUSTIN, Tex., Jan. 28.—The Railroad Commission set the basic oil allowable for February at 1,010,339 bbls. daily, an increase of 11,727 bbls. daily over the basic allowances for this month.

Harold L. Ickes, Secretary of the Interior, had agreed to an increased daily production in Texas of 25,700 bbls. Commissioners indicated early this week, however, that the allowable would be held down because of court decisions releasing large quantities of products on which tenders had been refused.

The State's allowable production, as of Friday, is 1,013,775 bbls. Completions in East Texas and new wells and fields in other parts of the State cause the allowable to increase through each month until at the end it usually is considerably above the basic figure.

The February basic allowable by districts, and the change from January follows: Panhandle, 60,300 and 58,800 (1,500 increase for Moore County); North Texas, 59,400 and 58,500 (900 increase for Foard County); East Texas, 428,000 and 423,000; West Central, 31,000 and 25,000; East Central, 51,995 and 52,002; West Texas, 145,055 and 147,407; Southwest Texas, 38,785 and 36,605; Government Wells, 18,645 and same; Gulf Coast, 177,159 and 178,653.

The increase in East Texas was due to completions, the hourly potential remaining unchanged.

ACME PETROLEUM MOVES

The Acme Petroleum Co. announced the removal of its offices from 75 East Wacker Drive to new quarters at 176 West Adams Street, Chicago, Ill.

ANDERSON-PRICHARD OIL CORPORATION
COL-TEX REFINING COMPANY

General Offices: Colcord Building
Oklahoma City, Okla.

Branch Offices
Chicago—Indianapolis—Akron—New York—Minneapolis—Springfield, Illinois—Sioux Falls, South Dakota—Des Moines, Iowa

Refineries
Cyril, Oklahoma, located on Frisco Ry.—Colorado, Texas, located on T. & P. Ry.

PRODUCERS—REFINERS—MARKETERS

Fine volatile high anti-knock gasolines — Industrial and Technical Naphthas — Kerosenes — Distillates — Furnace Oils — Gas Oils — Fuel Oils — Road Oils — Cutbacks — Asphalts — Roofing Materials

Drilling Continues Unabated in East Texas Area; New Gas Field Opened in Anderson County

By L. E. BREDBERG

DALLAS, Tex., Jan. 28.—Two locations and three wildcat completions were all that were reported in the East Texas district during the week. Gulf Production Co. tried to complete its No. 1 Davey and Royal in Anderson County for a gasser. This test picked up gas when drilling at 5,045 feet, but drilled into the Georgetown lime and was bottomed at 5,970 feet, plugging back to 5,066 feet in the sub-Clarksville. It made an estimated 10,000,000 feet of gas here, but flowed salt water. The company is now plugging it back still further in an effort to shut off the water. The gas is desired for drilling a test about 1½ miles south, on the F. M. Delaney 14-acre tract in the Phillip Martin Survey.

The Davey and Royal gasser is approximately 7 miles southeast of Palestine, and opens another gas producing field in the county, about 19 miles east of the Long Lake Field in the northwest corner discovered in 1933 by the Tide Water Oil Co. and Texas Seaboard Oil Co., which has proven mainly a gas producing area. The Lone Star Gas Co. is now taking gas from wells in that field. United Gas System has a line running near the Davey and Royal gasser, and may tie into it although no deal is pending.

The new locations reported were for tests in Navarro and Hunt Counties. McGlothlin (Big Bill) is to drill a Woodbine sand test 150 feet from the west and midway from the north and south lines on a 138-acre tract in the E. Lowry Survey, 2 miles north of Corsicana in Navarro County. There is old shallow production in this area, but no wells producing from the Woodbine sand, and the location is considered important.

Shawver and others have rigged up a test, 1,200 feet east of an abandoned location on the Phillips farm, in the University Lands Survey, 2 miles west of Commerce, in Hunt County.

Cherokee County

In the Rusk area of Cherokee County, Parson and others abandoned their No. 1 Southern Pine Lumber Co. test, in the M. H. Thompson Survey, at a total depth of 5,460 feet. It tested salt water last week and shut down to await orders. It marks another disappointment for the area opened the middle of 1934 by Wood and others on the New Birmingham Development Co. lands, approximately 6½ miles southwest of the county seat, Rusk County.

Fair and others abandoned their No. 1 Rushing, 1½ miles southeast of Whitehouse in Smith County, at a total depth of 4,673 feet, to wipe off another possible producing area in this county.

Tuberville and others' No. 1 J. S. Ivy, in the F. B. Hardy Survey, Freestone County, about 2 miles southwest of Turlington and 7 miles southeast of Fairfield, and approximately 1½ miles southeast of the gasser on the P. D. C. Ball lands, which encountered ashy sand last week, carrying an odor of gas, tested salt water this week, with packer set at 4,830 feet, top of the sand, and is to drill to 5,000 feet and be abandoned unless oil or gas in commercial quantities is encountered. It is down 4,840 feet.

Abercrombie and Harrison, who have drilled several dry shallow tests in Red River County, are reported to have encountered a showing of heavy, low gravity oil in No. 1 J. M. Roberts, in the John Ware Survey, 8 miles north of Clarksville, at 1,160 feet, which is below the Georgetown lime topped at 744 feet. The Woodbine section was reported topped at 450 feet. The test is shut down, presumably to allow the operators time in which to acquire more acreage. Elevation is 424 feet.

EAST TEXAS FIELD

One of the larger sales reported in the East Texas Field during the past few weeks was the consummation of a deal between Rio Oil Corp. and O. L. Hickman and S. K. Baird of Shreveport, the latter taking over the 106-acre Lannie Graves tract in the Mowry Irwin Survey in Upshur and Gregg Counties. There are six wells on this lease with permits to drill several additional tests.

There were 60 wells completed in the East Texas Field during the week, 3 of which were swabbers and one pumper. Fifty-two locations were staked and drilling is going ahead unabated, operators obtaining injunctions in order to drill exceptions to Rule 37, on small tracts and subdivided tracts.

COMPLETIONS IN EAST TEXAS

Cherokee County

Parsons and others' No. 1 Southern Pine Lumber Co., dry and abandoned 5,460 feet.

Limestone County

Pure Oil Co.'s No. 21-S Rogers, dry and abandoned 810 feet. Waite's No. 1 Barron, location abandoned.

Smith County

Fair and others' No. 1 Rushing, dry and abandoned 4,673 feet.

EAST TEXAS FIELD

Gregg County

Ambrose's No. 12 Jones, top pay 3,540 feet, total depth 3,601 feet, initial production 125 bbls. per hour. Atlantic Oil Producing Co.'s No. 11 Harris, top pay 3,512 feet, total depth 3,556 feet, initial production 75 bbls.; No. 6 Reppond, top pay 3,660 feet, total depth 3,694 feet, initial production 75 bbls. Bishop Corp.'s No. 6 Richey, top pay 3,544 feet, total depth 3,582 feet, initial production 35 bbls. in 30 minutes. Collins, Gray and others' No. 3 Fisher, top pay 3,420 feet, total depth 3,448 feet, initial production 65 bbls. Fain & McGaha's No. 6 Corbin, top pay 3,570 feet, total depth 3,597 feet, initial production 25 bbls. in 15 minutes. Gulf Production Co.'s No. 15 Bozeman, top pay 3,587 feet, total depth 3,630 feet, initial production 90 bbls.; No. 1 Dunbard, top pay 3,570 feet, total depth 3,994 feet, initial production 20 bbls. in three hours, swabbing; No. 40 Shepherd, top pay 3,475 feet, total depth 3,505 feet, initial production 60 bbls. Magnolia Petroleum Co.'s No. 9 Allen, top pay 3,655 feet, total depth 3,701 feet, initial production 94 bbls. Margay Oil Co.'s No. 6-A Christian, top pay 3,684 feet, total depth 3,707 feet, initial production 125 bbls. per hour.

Moran and others' No. 2 Harley, top pay 3,579 feet, total depth 3,599 feet, initial production 26 bbls. in 15 minutes. Rancho Oil Co.'s No. 3 Richey, top pay 3,580 feet, total depth 3,605 feet, initial production 90 bbls. per hour through 1-inch choke. Roeser & Pendleton's No. 6 Sheffield, top pay 3,623 feet, total depth 3,650 feet, initial production 24 bbls. in 36 minutes. Selby & Lewis' No. 13-D Snavely, top pay 3,588 feet, total depth 3,596 feet, initial production 30 bbls. in 30 minutes. Shasta Oil Co.'s No. 7-A Campbell, top pay 3,603 feet, total depth 3,636 feet, initial production 22 bbls. in 20 minutes; No. 5-B Richey, top pay 3,547 feet, total depth 3,565 feet, initial production 34 bbls. in 35 minutes. Stanolind Oil & Gas Co.'s No. 9 Ingram, top pay 3,517 feet, total depth 3,598 feet, initial production 34 bbls. in 38 minutes. Stanolind and Simms Oil Co.'s No. 10 Albright, top pay 3,535 feet, total depth 3,629 feet, initial production 34 bbls. in 38 minutes. Tide Water Oil Co.'s No. 2 Lathrop, top pay 3,600 feet, total depth 3,626 feet, initial production 10 bbls. in 10 minutes.

Vaughn Production Co.'s No. 6 Jones, top pay 3,545 feet, total depth 3,607 feet, initial production 125 bbls. per hour. Yount Lee Oil Co.'s No. 3-D McKinley, top pay 3,585 feet, total depth 3,601 feet, initial production 50 bbls. per hour through eleven-sixteenths inch choke. Atlantic Oil Producing Co.'s No. 16 Griffin, top pay 3,546 feet, total depth 3,600 feet, initial production 75 bbls. per hour. Gulf Production Co.'s No. 33 Brown, top pay 3,546 feet, total depth 3,570 feet, initial production 62 bbls. per hour. Francis' No. 1 Elder, top pay 3,506 feet, total depth 3,624 feet, initial production 160 bbls. per hour. Cimarron's No. 1 fee, top pay 3,626 feet, total depth 3,638 feet, initial production 65 bbls. in 30 minutes.

Luttes' No. 3-B Greer, top pay 3,655 feet, total depth 3,660 feet, initial production 60 bbls. per hour. Magnolia Petroleum Co.'s No. 12 Cole, top pay 3,563 feet, total depth 3,564 feet, initial production 88 bbls. per hour; No. 28 Radford, top pay 3,633 feet, total depth 3,636 feet, initial production 70 bbls. per hour. Shell Petroleum Corp.'s No. 13-A Douglas, top pay 3,684 feet, total depth 3,593 feet, initial production 40 bbls. in 30 minutes; No. 9 King, top pay 3,603 feet, total depth 3,612 feet, initial production 20 bbls. in 15 minutes. Sun Oil Co.'s No. 16 Hilburn-Lloyd, top pay 3,625 feet, total depth 3,634 feet, initial production 40 bbls.; No. 2 Walker, top pay 3,555 feet, total depth 3,566 feet, initial production 25 bbls. Texas Co.'s No. 9 Davis, top pay 3,508 feet, total depth 3,560 feet, initial production 70 bbls.; No. 11 Wall, top pay 3,688 feet, total depth 3,710 feet, initial production 70 bbls. Trentman Oil Corp.'s No. 2 Presbyterian Church, top pay 3,541 feet, total depth 3,553 feet, initial production 20 bbls. in four hours, swabbing.

J. K. Hughes, independent operator, Mexia, Texas

Rusk County

Kathleen Oil Co.'s No. 7 Peterson, top pay 3,630 feet, total depth 3,660 feet, initial production 100 bbls. Lewis & Selby's No. 10 Bean, top pay 3,588 feet, total depth 3,650 feet, initial production 20 bbls. in 15 minutes. Retsall Drilling Co.'s No. 1 Taylor, top pay 3,600 feet, total depth 3,670 feet, initial production 24 bbls. per hour, swabbing. Robert and others' No. 2-C Brightwell, top pay 3,649 feet, total depth 3,654 feet, initial

(Continued on Page 124)

East Central Texas Wildcats

Week Ending January 26

ANDERSON COUNTY

Gulf Prod. Co.'s No. 1 Dovey & Royall, 330 ft. from NE and NW of 172-ac. tract, M. Rogers Sur.
T.D. 5,969 ft.; P.B. to 5,280 ft.; made gas well.

J. W. Luttes' No. 1 C. McKee, 3,640 ft. from N line of lease and survey and 330 ft. from W line of McKey 800-ac. tract.
Derrick.

Tide Water Oil Co. et al's No. 21-A Wells, 4,079 ft. N and 2,333 ft. W of lease, S. Edmondson Sur. (Trinity test).
Drlg. 835 ft.

BOWIE COUNTY

Tex-Ark. Oil Co.'s No. 1 Hamilton Estate, 600 ft. E and 350 ft. N lines, J. Milan Sur., 4 miles S of Red River.
Rigged up.

CHEROKEE COUNTY

Jacksonville O. & G. Co.'s No. 1 H. D. Henderson, 660 ft. from N and W lines of 40-ac. tract out of Tankersley 104-ac. tract, 5 miles NE of Jacksonville on W side of railroad, J. Pineda Sur.
T.D. 752 ft.

Rowan-Nichols Oil Co.'s No. 1 Gilbreath, 460 ft. N and 2,600 ft. from W lines of C. M. Brewer Sur., 1 mile NW of Reklaw.
Drlg. 426 ft.

E. M. Thomason et al's No. 1 Addis Estate, 250 ft. S of survey and 150 ft. E of railroad, J. T. Jones Sur., 6 miles NW Alto.
S.D. 2,150 ft.

Wilson Stubbs Oil Co.'s No. 1 Rowborts, 450 ft. from S line, 150 ft. from W line of 100-ac. tract, 2 miles SW of Jacksonville, J. D. Wolfin Sur.
S.D. 1,553 ft.

ELLIS COUNTY

Beckner-Finley et al's No. 1 Coker, 2,900 varas along S line of grant from river and 1,700 varas N at R/A, R. De La Pena Sur.
S.D. 527 ft.

FREESTONE COUNTY

Amerada Pet. Corp.'s No. 1 Burk, 851 ft. S and 191 ft. W of river, E. G. Rector Sur. Location.

Burris' No. 1 R. J. Johnson, NE cor. of a 95.5-ac. tract, W. M. C. Jones Sur.
S.D. 196 ft.

Tuberville et al's No. 1 Ivy, 2,004 ft. S and 606 ft. E of F. B. Hardy Sur., 7 miles SE of Fairfield.
Drlg. 4,845 ft.

GREGG COUNTY

O. T. Clark's No. 1 Williams, 2,100 ft. from S and 2,400 ft. from W of D. Hill Sur., 3 miles NE of Longview.
S.D. 2,985 ft.

HENDERSON COUNTY

Campbell and Chamberlain's No. 1 R. Ansley, 1,724 ft. W and 300 ft. S of SE cor. of M. Matthews Sur., N. H. T. Thompson Sur.
S.D. 894 ft.

Crosby and Pulp's No. 1 M. T. Dobbs, NW cor. of east Dobbs 100-ac. tract, 4 miles E of Malahoff and S of Railroad, George Aldrick Sur.
S.D. 4,048 ft.

HILL COUNTY

Humble O. & R. Co.'s No. 1 Citizen National Bank of Denison, 2,070 ft. W and 535 ft. S of N. T. Roberts Sur., 2½ miles NE of Mount Calm.
S.D. 1,210 ft.; S.O. 1,139-41 ft.

HOPKINS COUNTY

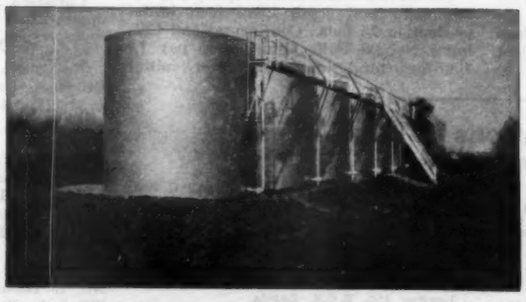
D. A. Hale et al's No. 1 L. M. Hall, 200 ft. from N and E lines of 70-ac. tract, 1 mile SE of Miller Gros. A. Caro Sur.
S.D. 1,485 ft.

(Continued on Page 126)

Order Wyatt Welded Pipe to Suit Your Own Specifications

You can order welded pipe from Wyatt's and have your requirements exactly filled whether light weight or standard weight, whether plain end or flanged end, whether for screwed connections or Dresser or Victaulic couplings. Pipe is available in any length.

Battery of Wyatt Welded Tanks in Fitts Pool



Delivery and Erection service Equals that of bolted tanks

Wyatt's Electric Welded Tanks

Electric welding makes your storage tank one solid sheet of steel, leak-proof for life. They cost no more and their salvage is equal to that of a tank of bolted construction. They are liquid and gas-tight and meet all demands of the oil industry.

Pioneer Designers and Builders of All-Welded Steel Storage Tanks

WYATT METAL & BOILER WORKS

PLANTS AT DALLAS AND HOUSTON

Second Producer Soon Due in the Halley Pool; Ranger-Wichita Area Gets 53 Locations

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Jan. 28.—There were 11 locations staked in the Permian Basin during the week and only seven wells completed, all producers but one, which was temporarily abandoned at 2,970 feet in Howard County. Two of the locations were for wildcats, one being an extreme wildcat north of Alpine, in Brewster County. This test, to be drilled by Floyd Dodson of Angelo, and others, was mentioned last week.

The Halley Pool, about 3 miles east of the south end of the Hendricks Field, Winkler County, is due to get its second producer, just north of the discovery well drilled by Skelly Oil Co. in Section 25, Block B-11, P.S.L. Survey. It is now shut down at 2,907 feet in sandy lime with 2,400 feet of oil in the hole from 2,850-67 and 2,880-85 feet. The discovery well was drilled to 3,112 feet, making a 382-bbl. well in 16 hours from a new pay horizon flanking the Hendricks Field. This area is expected to be linked with the Howe area about 12 miles north, producing from the same formation. Tests between the two have been held up by fishing jobs and other impediments, although Maxwell and others' No. 1 Oscar Clapp, in Section 37, Block 26, lying on the trend almost midway between the two areas, does not look so favorable as a producer. It has drilled to around 3,325 feet, showing only one bailer of oil hourly from 3,187-95 feet. However, production may run to the east as Jefferies, Fox and Butler's No. 1 Brown and Aultman, in Section 6, Block B-5, about 1½ miles southeast of the Clapp test, has been showing for a producer. It has been held up by a fishing job, the owners cementing a whipstock from 2,712-54 feet to sidetrack a bit and liner. It showed oil and gas from 3,095-98 feet a few weeks ago, before the fishing job, and may prove a producer. Barnsdall Oil Co. is offsetting it to the north.

Andrews County

Humble Oil & Refining Co.'s No. 2 Means, in Section 11, Block A-35, 2 miles southeast of the nearest production in the Means Pool, Andrews County, is still incomplete, the drill pipe having stuck during the week. It flowed 194 bbls. in 24 hours after shooting with 390 quarts, and it proved for an extension producer.

There are no other tests down far enough in Andrews County to be of interest, although six are drilling, one other in the Means area, and two rank wildcats.

Jones County

The Texas-Inland oil pool, east of Hawley in Jones County, is about due to get another small shallow producer. Capitan Oil Co.'s No. 2 Newton, in Section 1, Block 20, T.&P. Survey, swabbed 60 bbls. after a 40-quart shot from 1,748-57 feet. It was then treated with acid and has not been tested since. Total depth is 1,759 feet.

Schleicher County

John C. Cooper has been trying to test his No. 1 Bert Page, in Section 40, Block L, G.H.&S.A. Survey, Schleicher County, but the packer failed to hold. Packer was set 60 feet off bottom, total depth being 5,978 feet. This is the only Ordovician test drilling, another proposed deep test not having been started yet.

A wildcat test is proposed for Section 21, Block 13, S.P. Railway Survey, on a block composed of 8½ sections just assembled. The test is to spud by April 1.

Stanolind Oil & Gas Co.'s No. 5 Cowden, in Section 27, Block 43, in the Addis Pool, Ector County, appears a dry hole at 4,444 feet where it drilled to sulphur water. Light showings of oil were found below 4,051 feet, and the test will probably be plugged back to shoot these showings.

PANHANDLE DISTRICT

There were 12 completions reported in the Panhandle district during the week, all producers but one, and located in Gray and Hutchinson County. The dry hole was in Hutchinson County, drilled by Johnson and Barnett on the Boren ranch. It was given up at 2,051 feet. There were only six locations staked in the county, all in proven areas.

The Panhandle allowable is to remain at 58,800 bbls. However, the field has been producing above its allowable nearly each week, this week's daily average being 60,895 bbls.

WICHITA FALLS DISTRICT

There were 53 locations staked in the Ranger and Wichita Falls districts during the week, with only 26 completions reported for the latter district, mainly because of drilling operations having been curtailed by severe weather. Ten of the tests were abandoned as dry, one rank wildcat, Christie's No. 1 Moore, in Knox County, being given up at 2,025 feet.

T. J. Deskins, of Jacksboro, has blocked approximately 4,100 acres 5 miles northeast of Bryson, centering in T.E.&L. Survey No. 3,347, for three 1,000-foot tests and one 4,000-foot test. One dry hole drilled to 3,510 feet is in the northwest corner of the survey and another is in the northeast corner of T.E.&L. Survey No. 3,345.

W. H. Yearing has purchased the west 40 acres of the south 80 acres of the west 214 acres of Beavers and others in Young County, including four shallow wells which have a total daily production of 15 bbls. Two wells on the tract have been abandoned. Payment was made partly in cash and partly in oil.

Doctors McCall and Curtis, of San Antonio, have leased the east 2,700 acres of their 8,000-acre ranch centering in the H. Schlafer Survey No. 691, McCulloch County, to S. Sanders for four 700-foot tests and one 2,200-foot test, all to be drilled in 12 months. The lease is approximately 5 miles southwest of White Brothers' No. 1 fee discovery recently completed as a 25-bbl. well at a total depth of 670 feet. This discovery has brought considerable attention to this part of the county, especially from independents who favor shallow producing areas, because of economical costs.

The Lone Star Gas Co. has made two locations for 3,500-foot tests on its acreage in northwest Eastland County.

Runs from the Wichita Falls district average 62,755 bbls. per day during the week.

COMPLETIONS IN WEST TEXAS

Howard County

Ward Oil Co.'s No. 5 Roberts, temporarily abandoned at 2,970 feet. Bond Drilling Co.'s No. 5 Denman, top pay 2,494 feet, total depth 2,845 feet, shot with 600 quarts from 2,460-2,845 feet, initial production 153 bbls. daily, pumping.

Pecos County

Shell Petroleum Corp.'s No. 1-F Bower-University, total depth 1,645 feet, plugged back to 1,640 feet, initial production 86 bbls. per day.

Upton County

Gulf Production Co.'s No. 105 McElroy, top pay 2,680 feet, total depth 2,-908 feet, shot with 260 quarts from 2,-708-2,890 feet, initial production 890 bbls. per day.

Ward County

Richardson's No. 12-D Johnson, top pay 2,368 feet, total depth 2,588 feet, initial production 382 bbls. per day; No. 15-B Johnson, top pay 2,400 feet, total depth 2,590 feet, initial production 1,026 bbls. per day. California Co.'s No. 22 Durgin, top pay 2,280 feet, total depth 2,343 feet, initial production 255 bbls. per day.

WICHITA FALLS COMPLETIONS

Archer County

Cockburn's No. 6 Andrews, top pay 1,-384 feet, total depth 1,395 feet, initial production 25 bbls. Continental and Cullum's No. 20 Falls County, top pay 1,-106 feet, total depth 1,121 feet, initial production 35 bbls. Cullum's No. 20 Falls County-Ellis, top pay 1,119 feet, total depth 1,137 feet, initial production 100 bbls. Fain & McGaha's No. 32 Arnold, top pay 1,191 feet, total depth 1,209 feet, initial production 350 bbls. McDaniels Drilling Co.'s No. 3 Bridwell, top pay 913 feet, total depth 914 feet, initial production 45 bbls. of oil and 10 bbls. of water. Perkins and Cullum's No. 132 Falls County, top pay 1,139 feet, total depth 1,151 feet, initial production 150 bbls. Staniforth and Ray's No. 15 Wilson, top pay 1,600 feet, total depth 1,602 feet, initial production 300 bbls. Underwood Drilling Co. and others' No. 1-D Ward, dry and abandoned 1,074 feet. Weathers and others' No. 1 Bridwell, dry and abandoned 950 feet.

Gilbert J. Sevier, scout for the Pure Oil Co. and C. A. Weintz, scout for the Stanolind Crude Oil Purchasing Co., both with headquarters at Tyler, Texas

Cooke County

Failes and others' No. 1 Powell, top pay 1,325 feet, total depth 1,338 feet, initial production 10 bbls. of oil and 2 bbls. of water per day.

Jack County

Gaines' No. 1 Smith, top pay 301 feet, total depth 305 feet, initial production 5 bbls. per day.

Knox County

Christie's No. 1 Moore, dry and abandoned 2,025 feet.

Montague County

Beck's No. 11 Davenport, top pay 1,-640 feet, total depth 1,654 feet, initial production 45 bbls. per day.

Wichita County

Arrington and others' No. 1 Burnett, dry and abandoned 748 feet. Burns & Long's No. 17-D Allen & Kemp, top pay 1,310 feet, total depth 1,324 feet, initial production 25 bbls. per day. Clark and others' No. 37 Bickley, dry and abandoned 1,484 feet. Continental Oil Co.'s No. 19 Hamilton, dry and abandoned 1,-203 feet. Golding & Cochran's No. 10-C Waggoner Brothers, top pay 1,298 feet, total depth 1,394 feet, initial production 12 bbls. per day. Petroleum Producers Co. and others' No. 1 Allen & Kemp, dry and abandoned at 667 feet; No. 68 Allen & Kemp, dry and abandoned at 649 feet.

Young County

Baker Oils, Inc.'s No. 3 Perkins, top pay 733 feet, total depth 742 feet, initial production 150 bbls. Nash & Windfohr's No. 1 Graham, top pay 2,580 feet, total depth 2,600 feet, initial production 60 bbls. Panhandle Refining Co.'s No. 1 Stewart, dry and abandoned 954 feet. Pitzer & West and Simms Oil Co.'s No. 1 Gardiner, top pay 3,847 feet, total depth 3,925 feet, initial production 840 bbls. and 2,500,000 feet gas after treat-

Wildcat Operations in West Texas

Week Ended January 25

ANDREWS COUNTY

Fuhrman Pet. Corp.'s No. 2-B Boner, 440 ft. from N and 1,320 ft. from E, Sec. 25, Blk. A-43.
Drlg. 1,993 ft.

Humble Oil & Ref. Co.'s No. 2 Means, 660 ft. from N and 1,980 ft. from W, Sec. 11, Blk. A-35.
T.D. 4,555 ft.; shot 400 qts.; made 190 bbls. on second 24-hr. test.

Humble Oil & Ref. Co.'s No. 3 Means, 1,980 ft. from S and 2,300 ft. from W, Sec. 4, Blk. C-45.
Drlg. 2,860 ft.

Humble Oil & Ref. Co.'s No. 8 Means, 660 ft. from N and 1,997 ft. from E, Sec. 9, Blk. A135.
Rigged up.

Stogner et al's No. 1 Richardson, 1,980 ft. N and 660 ft. E, Sec. 4, Blk. A-37, P.S.L.
T.D. 590 ft.; crooked hole 550 ft.

York & Harper's No. 1 Hereford Stock Farms, C Labour 12, League 315, Parmer Co. School Lands.
S.D. 1,165 ft.

BREWSTER COUNTY

F. C. Dodson's No. 1 Texas American Syndicate, 660 ft. from N and E, Sec. 66, Blk. 10, G.H.&S.A. Sur.
Location.

Joiner et al's No. 1 McIntyre, 353 ft. from S, 2,390 ft. from E of Sec. 21, Blk. 352, W. M. Mitchell Sur.
S.D. 2,100 ft.

King & Franklin's No. 1 Gage Est., C Sec. 138, Blk. 32, G.H.&S.A. Sur.
S.D. 575 ft.

S. G. Smith's No. 1 Decie, 2,490 ft. from S and E. Sec. 7, Blk. 1.
Drlg. 405 ft.

COCHRAN COUNTY

Kelsey's No. 1 Slaughter, C Labour 36, League 150, R.C.S. Lands.
Location.

West Texas Development Co.'s No. 1 Slaughter, near C of Labour 53, League 149, Randall Co. School Lands.
Derrick.

CRANE COUNTY

Strauss' No. 1 Phelps et al, 2,113 ft. from N and 713 ft. from NW Sec. 13, Blk. 31, H.&T.C. Sur.
S.D. 1,986 ft.

Gulf Prod. Co.'s No. 1 Waddell, C NW NW Sec. 4, Blk. B-37, P.S.L. Sur.
Drlg. 1,640 ft.

Gulf Prod. Co.'s No. 9 Waddell, C of NE, Sec. 11, Blk. B-33, P.S.L. Sur.
Drlg. 552 ft.

Wahlenmaier Pet. Corp.'s No. 1 Kloh, 330 ft. from S and 1,608 ft. from W, Sec. 33, Blk. 43, Twp. 4s, T.&P. Sur.
Spudded.

CROCKETT COUNTY

Eppenauer Drlg. Co.'s No. 1-C Powell, 1,650 ft. from S and 250 ft. from E, Sec. 52, Blk. BB, G.C.&S.F. Sur.
Rigged up.

(Continued on Page 125)

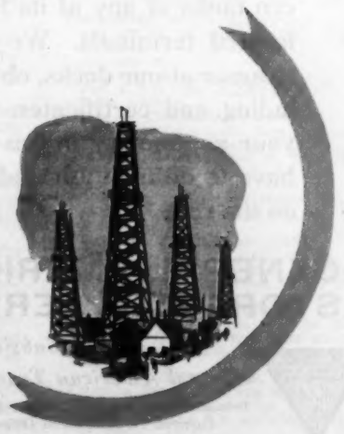
THE PETROLEUM BUILDING

616 SOUTH MICHIGAN AVE.,
CHICAGO

HOME OF THE CHICAGO
OIL MEN'S CLUB

FINE OFFICE UNITS NOW AVAILABLE
FOR SPRING LEASING

ARTHUR RUBLOFF & CO.
AGENTS



ing with 3,000 gallons of acid. Hazel B. Sparks' No. 4-A Campbell, dry and abandoned 950 feet.

COMPLETIONS IN PANHANDLE

Gray County

Danciger Oil & Refining Co.'s No. 10 Powell-Beck, total depth 2,984 feet, initial production 494 bbls. per day on gas lift. Indian Territory Illuminating Oil Co.'s No. 7 Smith, top pay 3,195 feet, total depth 3,276 feet, shot 486 quarts from 3,192-3,275 feet, initial production 75 bbls. per day swabbing. Kewanee Oil & Gas Co.'s No. 3-D Morse, top pay 2,453 feet, total depth 2,535 feet, shot 360 quarts from 2,418-2,528 feet, initial production 183 bbls. per day pumping. Parton & Holt's No. 1 Chapman, total depth 2,860 feet, shot 250 quarts from 2,753-2,853 feet, initial production 35 bbls. per day pumping. Plains Holding Co.'s No. 1 Chapman, top pay 2,635 feet, total depth 2,707 feet, shot 250 quarts from 2,645-2,705 feet, initial production 266 bbls. per day pumping. Skelly Oil Co.'s No. 19 Schaffer, top pay 3,123 feet, total depth 3,283 feet, shot 390 quarts from 3,123-3,275 feet, initial production 35 bbls. per day pumping; No. 20 Schaffer, top pay 3,118 feet, total depth 3,276 feet, shot 420 quarts from 3,118-3,276 feet, initial production 334 bbls. per day pumping. Stanolind Oil & Gas Co.'s No. 2-A Cobb, top pay 3,286 feet, total depth 3,330 feet, shot 140 quarts from 3,271-3,329 feet, initial production 121 bbls. per day pumping.

Hutchinson County

Helena Oil & Gas Co.'s No. 1 Kellar, top pay 2,365 feet, total depth 2,470 feet, initial production 699 bbls. per day pumping. Johnson & Barnett's No. 1 Boren, dry and abandoned 2,051 feet. Texas Co.'s No. 6-A Garner, top pay 3,040 feet, total depth 3,080 feet, shot 300 quarts from 3,027-80 feet, initial production 271 bbls. per day pumping; No. 4 Kellar, top pay 2,425 feet, total depth 2,535 feet, initial production 171 bbls. per day pumping.

COMPLETIONS, RANGER DISTRICT

Brown County

Herring's No. 1 Doss, total depth 1,965 feet, plugged back to 1,890 feet, dry and abandoned. Simpson and others' No. 1 Kennedy, dry and abandoned 2,086 feet.

Eastland County

Hickok Petroleum & Development Co.'s No. 1 Palmer, dry and abandoned at 4,245 feet. Lone Star Gas Co.'s No. 2 Kincade, total depth 3,535 feet, initial production 50 bbls. of oil and 3,404,000 feet of gas.

Coleman County

Anzac Oil Corp. and Humble Oil & Refining Co.'s No. 1 Jones estate, dry and abandoned at 3,360 feet. Watts Brothers' No. 1 Turner, dry and abandoned 2,308 feet.

Palo Pinto County

International Petroleum Corp.'s No. 4 Costello, total depth 1,378 feet, initial production 15 bbls.

Callahan County

Oplin Oil & Gas Co.'s No. 1 Irvin, dry and abandoned at 4,632 feet.

Shackelford County

Choate & McCamey's No. 2-A Elsie Simpson, temporarily abandoned at 280 feet; No. 3 Simpson, dry and abandoned at 1,625 feet; No. 1 Jefferson, dry and abandoned at 1,616 feet. Knight & Ewing's No. 8 Jeter, total depth 1,205 feet, initial production 100 bbls. Rhodes' No. 1 Gray, total depth 1,642 feet, initial production 40 bbls. Roeser & Pendleton and Humble Oil & Refining Co.'s No. 19-201 Morris and Buie, dry and abandoned 1,790 feet. Tannehill and others' No. 35 Newell, total depth 957 feet, shot 15 quarts, initial production 30 bbls. a day.

Throckmorton County

Reliance Oil & Royalty Co.'s No. 7 Lee, dry and abandoned 600 feet; No. 8 Lee, total depth 505 feet, initial production 410,000 feet of gas; No. 9 Lee, total depth 500 feet, initial production 20,000 feet of gas.

East Texas Fields

(Continued from Page 120)

production 70 bbls. per hour. Tide Water Oil Co.'s No. 14-A Bean, top pay 3,613 feet, total depth 3,695 feet, initial production 18 bbls. in 10 minutes through 1-inch choke.

Uscan Oil Co.'s No. 3 Morse, top pay 3,590 feet, total depth 3,638 feet, initial production 35 bbls. in 30 minutes. G.B.R. Oil Co.'s No. 10 Harmon, top pay 3,770 feet, total depth 3,825 feet, initial production 90 bbls. per hour. Humble Oil & Refining Co.'s No. 11 Bell, top pay 3,793 feet, total depth 3,808 feet, initial production 77 bbls. per hour; No. 6 Cameron, top pay 3,601 feet, total depth 3,711 feet, initial production 24 bbls. in 40 minutes; No. 15 Guerin, top pay 3,716 feet, total depth 3,765 feet, initial production 30 bbls. in 35 minutes; No. 9 Hauls, top pay 3,565 feet, total depth 3,685 feet, initial production 56 bbls. per hour through eleven-sixteenths inch choke. Magnolia Petroleum Co.'s No. 6 Holland, top pay 3,651 feet, total depth 3,730 feet, initial production 9 bbls. in 10 minutes. Marathon Oil Co.'s No. 21 Moore, top pay 3,599 feet, total depth 3,671 feet, initial production 56 bbls. per hour. Retsall Drilling Co.'s No. 4 Maxwell, top pay 3,517 feet, total depth 3,625 feet, initial production 20 bbls. per hour, pumping; No. 5 Maxwell, top pay 3,535 feet, total depth 3,600 feet, initial production 30 bbls. per hour, swabbing. Sinclair Prairie Oil Co.'s No. 12 Wilson, top pay 3,643 feet, total depth 3,661 feet, initial production 30 bbls. in 15 minutes. Texas Co.'s No. 13 Pinkston, top pay 3,627 feet, total depth 3,678 feet, initial production 60 bbls. per hour.

Smith County

Arcadia Refining Co.'s No. 9-A Green, top pay 3,755 feet, total depth 3,760 feet, initial production 25 bbls. in 30 minutes. Sinclair Prairie Oil Co.'s No. 28-A Mayfield, top pay 3,753 feet, total depth 3,754 feet, initial production 15 bbls. in 30 minutes. Sun Oil Co.'s No. 10-B Pace, top pay 3,768 feet, total depth 3,771 feet, initial production 42 bbls. per hour. Texas-State Oil Co.'s No. 1(4) Wright, top pay 3,662 feet, total depth 3,675 feet, initial production 70 bbls.

Upshur County

E. & D. Oil Co.'s No. 8 Well, top pay 3,712 feet, total depth 3,721 feet, initial production 75 bbls. per hour. Humble Oil & Refining Co.'s No. 26 Edwards, top pay 3,641 feet, total depth 3,669 feet, initial production 72 bbls. per hour. Shell Petroleum Corp.'s No. 5 Landers, top pay 3,679 feet, total depth 3,703 feet, initial production 30 bbls. in 30 minutes.

Trading in Gasoline Futures Delayed a Month

NEW YORK, Jan. 26.—Trading in gasoline futures which had been scheduled to start February 5 by the Commodity Exchange, Inc., has been postponed for one month according to an announcement this week. It is expected trading in crude oil futures can start on the same date. The action postponing the trading to March 5 was adopted at a meeting of the Board of Governors. Jerome Levine, president of the Commodity Exchange, said the following resolution was adopted:

"Whereas, the pamphlet mailed on December 31, 1934, to members of the oil industry, outlining the gasoline and crude petroleum contracts, has brought about a wide discussion and inquiry in the petroleum industry; and

"Whereas, it was specifically stated in the aforesaid pamphlet that it was the desire and purpose of the Commodity Exchange, Inc., to give the petroleum industry every opportunity to study, make inquiry and offer suggestions that would insure that both contracts meet as fully as possible the requirements of the petroleum industry; and

"Whereas, it has been suggested by prominent members of the petroleum industry that it would be desirable that trading in gasoline and crude oil be started simultaneously.

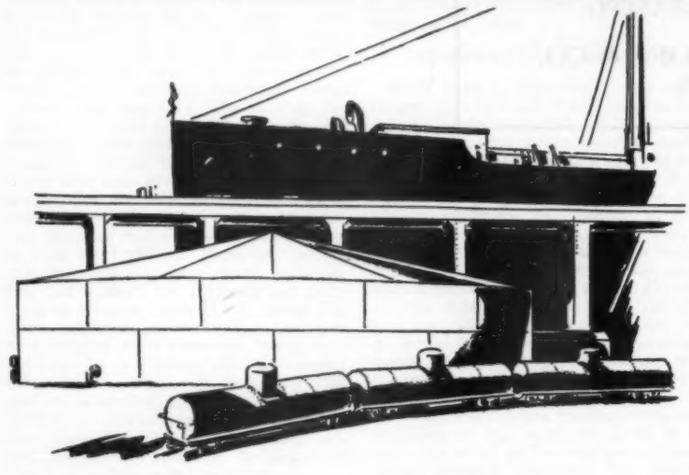
"Be it resolved that the date announced for the inauguration of trading in gasoline futures, namely February 5, 1935, be postponed to March 5, 1935, and

"Be it further resolved that on the aforesaid date, March 5, 1935, crude oil trading be likewise initiated and that notice hereof be promptly given to the members of the exchange and of the petroleum industry."

ROCKY MOUNTAIN RUNS

Estimated daily average production for the week ending January 26, follows:

	Bbls.
WYOMING	
Salt Creek	17,210
Big Muddy	1,780
Badger Basin	40
Black Mountain	0
Byron	410
Dallas Derby	800
Dutton Creek	80
Elk Basin	550
Ferris	10
Frannie	260
Garland	430
Grass Creek	1,170
Greybull	10
Hamilton Dome	820
Hudson	270
LaBarge	1,120
Lance Creek	680
Lost Soldier	1,800
Mule Creek	50
Midway	70
Notches	Shut in
Oregon Basin	3,300
Osage	700
Pilot Butte	30
Rex Lake	0
Rock River	1,510
South Casper	Shut in
Poison Spider	70
Teapot	10
Total Wyoming	33,180
MONTANA	
Buckley-Border	250
Cat Creek	670
Cut Bank	5,030
Dry Creek	0
Kevin-Sunburst	4,900
Lake Basin	40
Pondera	1,070
Total Montana	11,960
COLORADO	
Florence	210
Ft. Collins and Wellington	450
Iles Dome	2,420
Moffat	410
Orchard	90
Rangely	90
Tow Creek	180
Total Colorado	3,850
NEW MEXICO	
Artesia	620
Cooper Area	2,210
Eunice Area	3,760
Hobbs	33,040
Hogback	200
Hospah	Shut in
Jal	3,470
Lea Area	1,440
Maljamar	1,930
Rattlesnake	740
Table Mesa	90
Total New Mexico	47,500
Total Rocky Mountain region	96,490



"You buy and sell it . . . we'll do the rest"

And that holds true for *any* liquid commodity. General American will furnish tank cars of the exact type you need. GATX will store your product in modern tanks at any of its four strategically located terminals. We will load it on steamer at our docks, obtain your bills of lading and certificates. We will barrel your commodity if you desire. All you have to do is buy it and sell it . . . we'll do the rest.

GENERAL AMERICAN TANK STORAGE & TERMINAL CO.

A Subsidiary of

General American Transportation Corporation

Terminals: Goodhope, La., Westwego, La., Corpus Christi, Texas and Carteret, N. J. General Office: 230 S. Clark St., Chicago.

CAN HANDLE ANY LIQUID COMMODITY

Administrator's Report on Crude Oil Stocks

WASHINGTON, D. C., Jan. 28.—Stocks of domestic and foreign crude petroleum at the close of the week ended January 19, totaled 321,121,000 bbls., according to data compiled by the Bureau of Mines, Department of the Interior, for Petroleum Administrator Harold L. Ickes. In comparison with data for the previous week, this total represents a net decrease of 503,000 bbls., which comprised decreases of 454,000 and 49,000 bbls., respectively, in stocks of domestic and foreign crude oil.

Current reports of the industry indicate that daily average crude oil production remained virtually unchanged at about 2,580,000 bbls. Imports of crude oil, which had declined materially during the previous week, increased to an average of 75,000 bbls. daily. Crude runs to stills continued to increase, the daily average for the week ended January 19 amounting to 2,535,000 bbls. as compared with an average of 2,525,000 bbls. for the previous week and with an average of about 2,395,000 bbls. a year ago. The estimated daily average balance of crude oil for the week ended January 19 was as follows (barrels): Production, 2,580,000; imports, 75,000; decrease in stocks, 72,000, equals runs to stills, 2,535,000; exports, fuel and losses, 192,000.

STOCKS OF CRUDE PETROLEUM, JANUARY 12 AND JANUARY 19, 1935

(Barrels of 42 gallons)

Pennsylvania Grade ..	4,536,000	4,585,000
Other Appalachian ..	985,000	978,000
Lima-N.E. Indiana-Michigan	1,147,000	1,109,000
Illinois-S.W. Indiana..	11,488,000	11,491,000
N. Louisiana and Arkansas	9,625,000	9,604,000
West Texas and S.E. New Mexico	30,502,000	30,458,000
East Texas	29,678,000	29,049,000
Other Mid-Continent..	149,433,000	149,846,000
Gulf Coast	18,613,000	18,548,000
Rocky Mountain	27,540,000	27,527,000
California	34,776,000	34,674,000
Domestic crude	318,323,000	317,869,000
Foreign crude	3,301,000	3,252,000
Total*	321,624,000	321,121,000

*Represents approximately 98 per cent of total stocks in the United States, exclusive of producers' stocks.

Southwestern Gas Men Will Meet in Dallas

DALLAS, Tex., Jan. 28.—More than 250 employes and executives of 53 natural and manufactured gas companies serving 6,000,000 gas users in 12 southern and southwestern states will consider methods of aiding consumers to get the most out of their gas service when the Southern Gas Association convenes here February 20 to 22. Five of the states have no natural gas, Florida, North and South Caroline, Virginia and District of Columbia. Other states to be represented are Tennessee, Georgia, Alabama, Mississippi, Louisiana, Arkansas, Texas and Maryland.

The largest natural gas representation will be from Texas which has more than 2,000,000 of the 3,578,000 natural gas users served by the companies. More than 2,849,000 of the gas users are served with manufactured gas.

W. W. Winter, vice president of the Atlanta Gas Light Co., is president of the association. C. K. Patton, new business manager, Dallas Gas Co.; W. C. Grant, advertising director, Lone Star Gas System, who is chairman of the local arrangements committee; C. L. Trevitt, new business manager, Community Natural Gas Co., and W. J. Briggle, Jr., industrial department, Lone Star Gas Co., are on the program.

DEATH OF MRS. BLOW

Mrs. Albert Allmand Blow, mother of Allmand M. Blow, vice president and general manager of the Amerada Petroleum Corp., Tulsa, died at her home in New York last week. Mr. and Mrs. Blow attended the services which were held in Richmond, Va., Sunday.

Big Drilling Programs Forced on Companies

(Continued from Page 14)

companies holding acreage on each side of the river have to offset these wells.

An old roadway through a tract in the Joiner area, Rusk County, was divided up into three leases; one lease being 209 feet long, and only 30 feet wide, containing 1.4 acres. These tracts are being drilled, of course.

Mentioning drilling in Kilgore brings to mind that a well was drilled on a tennis court, next to another lot on which there was a garage apartment. A permit was obtained and the apartment was moved over about 15 feet so that a well could be drilled where the apartment formerly stood—this well is 25 feet from the well producing on the tennis court. There are no scruples against drilling on tennis courts, moving houses and stores for drilling, drilling in the front and backyards of dwellings, hotels or stores, or anywhere else in the townsite. One hotel owner even allowed an operator to cut out about six rooms in the side of his hotel in order to move in a rig to drill a well.

In an accompanying table there is shown the East Texas per well allowable as set by the Railroad Commission with all changes ordered from September 5, 1931, to date, and below is a table compiled on January 26 of this year showing the larger companies operating in the field together with the number of wells each had producing in the field on January 1 of the year shown; the acreage in the field owned by the company on January 1 of the year shown; and the total allowable production for the month of January on the year shown.

The well allowable in East Texas now is 3.6 per cent of the hourly potential with a minimum for marginal wells of 20 bbls. per day. The maximum allowable now is 36 bbls. per day with an average per well allowable for the field of 27 bbls. per day. There are 2,252 marginal wells in the field and the best well in the field now has a potential of 1,000 bbls. per hour.

On December 1, 1934, the larger producers held 85,382 acres in the field, with a total of 9,025 wells, which made their well density figure around 9.43. All other operators held 31,898 acres, with 6,239 wells, having a well density of 5.11. This acreage totals more than the 116,590 mentioned above, but this is due to some operators or companies claiming more proven acreage than is accurately measured by the engineers. The above two sets of figures shows an average well density of 7.68, but this has been brought still lower since there were 15,722 wells producing in the field as of 7 a.m. on January 25, 1935.

The table showing wells, acreage and allowables of a number of larger companies operating in East Texas does not convey the whole picture. It must be kept in mind the decrease in allowable per well is not due to a decline in capacity of the well to produce. Every well listed in the table could produce many times its daily allowable.

It must be remembered that wells capable of producing 11,160 bbls. per day or less are classified as marginal wells and allowed to produce 20 bbls. per day, although that rate is at a greater percentage than other wells not so classified. There were on January 25 of this year 13,470 wells in the East Texas Field which could produce, according to their potential rating, more than 11,160 bbls. per day each.

Yet, with hundreds of wells of this high productive capacity, the companies must continue to drill more wells to maintain a steady allowable, although everyone knows at the same time that every new well put on production simply helps to cut down the per well allowable. It is a vicious cycle due to too much drilling on small tracts and the necessity of drilling offsets to protect properties from drainage and conserve the interests of royalty owners.

For instance, the Yount Lee Oil Co. had a lower monthly allowable on January 1 of this year than it did on January 1, 1934, despite the fact that during 1934 it drilled and put on production 63 wells. The Sinclair Prairie Oil Co. completed 86 wells in 1934 but its allowable this month was 2,536 bbls. less than it was in January, 1934.

There were 3,517 wells completed in East Texas during 1934 and it is entirely probable a greater number will be drilled during this year in that area.

Company—	Jan. 1	Wells	Acreage	Allowable
Arkansas:	1933	179	2,806	164,633
	1934	203	2,806	217,375
	1935	288	2,960	241,266
Atlantic:	1933	368	4,118	342,357
	1934	497	4,175	603,750
	1935	793	5,869	737,181
Empire:	1933	92	1,325	84,743
	1934	111	1,398	137,720
	1935	162	1,425	158,859
Gulf:	1933	618	8,979	566,795
	1934	756	9,084	823,724
	1935	980	10,053	853,490
Humble:	1933	953	16,636	879,080
	1934	1,313	16,806	1,372,021
	1935	1,725	17,315	1,508,337
Hunt Prod.:	1933	148	2,202	133,825
	1934	197	2,276	169,989
	1935	237	2,295	180,914
Magnolia:	1933	429	5,717	390,451
	1934	527	5,725	548,613
	1935	885	7,261	760,248
Marathon:	1933	275	5,606	243,728
	1934	381	5,686	275,511
	1935	440	5,792	301,580
Shell:	1933	338	4,853	314,578
	1934	372	4,872	427,046
	1935	506	5,180	458,635
Sinclair:	1933	481	7,294	437,886
	1934	567	7,474	554,359
	1935	653	7,474	541,823
Stanolind:	1933	254	4,751	234,650
	1934	327	4,843	318,039
	1935	478	5,573	401,615
Sun:	1933	316	6,771	292,834
	1934	400	7,367	407,980
	1935	503	7,482	428,521
Texas Co.:	1933	190	3,088	175,199
	1934	257	3,136	248,553
	1935	330	3,156	290,045
Tide Water:	1933	319	3,995	293,549
	1934	396	4,056	400,751
	1935	477	4,072	409,144
Yount-Lee:	1933	178	2,244	166,505
	1934	202	2,332	223,509
	1935	265	2,332	221,451

EAST TEXAS FIELD PER WELL ALLOWABLE AS SET OUT BY THE RAILROAD COMMISSION

Date (inclusive)—	Allowable
9- 5-31 to 9-20-31	225
9-21-31 to 10-12-31	185
10-13-31 to 10-28-31	165
10-29-31 to 11- 6-31	150
11- 7-31 to 12-10-31	125
12-11-31 to 2- 4-32	100
2- 5-32 to 3-15-32	75
3-16-32 to 3-31-32	72
4- 1-32 to 4-15-32	71
4-16-32 to 4-30-32	67
5- 1-32 to 5-15-32	61
5-16-32 to 5-31-32	59
6- 1-32 to 6-15-32	54
6-16-32 to 6-30-32	51
7- 1-32 to 7-18-32	50
7-19-32 to 7-31-32	46
8- 1-32 to 8-15-32	44
8-16-32 to 8-31-32	43
9- 1-32 to 9-15-32	50
9-16-32 to 9-30-32	46
10- 1-32 to 10-14-32	44
10-15-32 to 10-31-32	40
11- 1-32 to 11-30-32	40
12- 1-32 to 12- 9-32	37
	Basis of well allowable:
12-10-32 to 12-17-32	Two-thirds prod. based on per well allowable, one-third on pressure and acreage.
12-18-32 to 12-31-32	Field shut down.
1- 1-33 to 1- 9-33	All wells allowed to produce 28 bbls.
1-10-33 to 3- 9-33	Aver. bottom hole pressure and per well allowable.
3-10-33 to 3-20-33	All wells allowed to produce 36 bbls.
31-21-33 to 4- 5-33	Average sand thickness of tract, bottom hole pressure of tract and per well allow.
4- 6-33 to 4-23-33	Field shut down.
4-24-33 to 6-13-33	15% of hr. potential.
6-14-33 to 9- 7-33	10% of hr. potential.
9- 8-33 to 3-30-33	7.5% of hr. potential.
10- 1-33 to 10-17-33	7.4% of hr. potential.
10-18-33 to 10-29-33	7.0% of hr. potential.
10-30-33 to 11-14-33	6.75% of hr. potential.
11-15-33 to 11-30-33	5.55% of hr. potential.
12- 1-33 to 12-30-33	5.40% of hr. potential.
12-31-33 to 6-30-34	5.00% of hr. potential.
7- 1-34 to 7-31-34	4.50% of hr. potential.
8- 1-34 to 9-30-34	4.00% of hr. potential.
10- 1-34 to 11-30-34	3.60% of hr. potential.
12- 1-34 to 12-17-34	3.45% of hr. potential.
12-18-34	3.60% of hr. potential.

West Texas Wildcats

(Continued from Page 122)

Leslie-Hiller et al's No. 1 Todd, 1,200 ft. N and 330 ft. E, Sec. 26, Blk. WX, G.C.& S.F. Sur.
S.D. 530 ft.
Humble Oil & Ref. Co.'s No. 1 Couch, C NW Sec. 3, Blk. QR, G.C.&S.F. Sur.
Drlg. 1,210 ft.

CULBERSON COUNTY

Anderson-Prichard Oil Corp., Magnolia Pet. Co. et al's No. 1 Borders, 1,255 ft. N and 2,305 ft. from W, Sec. 34, Blk. 69, P.S.L. Sur.
Drlg. 805 ft.
Miller Bros.' No. 1 fee, 1,900 ft. from N and 660 ft. from E line of Sec. 21, Blk. 97, P.S.L. Sur.
S.D. 2,145 ft.; show oil 2,107 ft.
Wood et al's No. 1 Hall, 250 ft. from S and 55 ft. from E, Sec. 11, Blk. 54½, 16 miles N of Van Horn, P.S.L. Sur.
S.D. 246 ft.

DAWSON COUNTY

Adams & Turner's No. 1 John Robinson, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 46, Blk. M, E.L.R.R. Sur.
S.D. 3,300 ft.

ECTOR COUNTY

Amerada Pet. Co. et al's No. 1 Holt, 1,980 ft. from S and E, Sec. 26, Blk. A.
Drlg. 4,393 ft.; T.P. 4,270 ft.; 2,500 ft. oil in hole.
Atlantic Oil Prod. Co.'s No. 1 T. P. Land Trust, 440 ft. from N and W of SE Sec. 11, Blk. 43, Twp. 1s, T.&P. Sur.
Drlg. 2,815 ft.
G. Farley's No. 1 Connell, 990 ft. from S

Here's the

"HYDRO-SEAL"

PLUG VALVE

Screw End

It holds high pressure—

Undercut grooves in the surface of the plug form metal "Hydro-Seal" Lips which are expanded by grease pressure applied by a booster screw—the line razor-like edges of the "Hydro-Seal" Lips engaging the wall of the body to make escape of pressure impossible.

Flange End

It turns easier—

Friction is reduced to a minimum—no cup leathers nor compressible packing being used—the bearing surface between the plug and body being lubricated—and only the edges of the "Hydro-Seal" Lips engaging the wall of the body.

Union End

It doesn't cut out—

Careless workmen desiring easy turning may improperly seat the plugs of conventional plug valves—causing invisible leakage which results in the valves cutting out prematurely. MacClatchie "Hydro-Seal" Plug Valves show leakage around the stem whenever the plug is improperly seated—thereby warning the operator to properly seat the plug and stop all leakage. Only a valve having its plug properly seated is capable of long wear and proper service.

250-lb. to 2,000-lb. Working Pressure. Sizes ½-inch to 20-inch. A Locking Means such as shown on the Screw End Valve can be furnished at small extra cost for any Model and Size.

Write for Catalog No. 14

MacCLATCHIE

MANUFACTURING CO.

COMPTON - - - - CALIF.

PLUG VALVES, MUD PUMPS, PISTONS AND VALVES

Sold by All Leading Supply Houses

and 330 ft. from E, Sec. 11, Blk. B-16, P.S.L. Sur.
Drlg. 330 ft.
Gulf Prod. Co.'s No. 1 Goldsmith, C of NW, Sec. 16, Blk. 44, Twp. 1s, T.&P. Sur.
Rigged up.
Harrison et al's No. 3 Addis, 1,650 ft. from N line and 2,300 ft. from W line of Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur.
S.D. 4,151 ft.
International Pet. Corp.'s No. 1 Cowden, 660 ft. from S and E, Sec. 25, Blk. 44, Twp. 2s, T.&P. Sur.
Drlg. 730 ft.
Landreth Prod. Co.'s No. 1 Clarence Scherbauer, 660 ft. from S and E lines of Sec. 20, Blk. 44, Twp. 1s, T.&P. Sur.
T.D. 4,236 ft.; plugged back to 4,186 ft.; S.D.
Penrose et al's No. 1 Kloh & Rumsey, 2,310 ft. from S and E, Sec. 31, Blk. 45, Twp. 1s, T.&P. Sur.
Rig.
Phillips Pet. Co.'s No. 1 Scharbauer, 990 ft. from S and 330 ft. from E, Sec. 16, Blk. B-16.
Drlg. 575 ft.
Shell Pet. Corp.'s No. 1 Connell, 1,980 ft. from N and 660 ft. from E, Sec. 12, Blk. B-16, P.S.L. Sur.
T.D. 3,664 ft.; flowed 196 bbls. first 24 hrs.

EDWARDS COUNTY

Harry Adams' No. 1 Holman, 1,650 ft. from N and 330 ft. from E, Sec. 22, C.C.S.D. &R.G.N.G. Sur.
Show oil 520-25 ft.; T.D. 602 ft.

EL PASO COUNTY

Mesa Oil Co.'s No. 1 Coronado Valley.
S.D. 1,415 ft.

FISHER COUNTY

Merry Bros. and Perrini's No. 1 Howard, 1,320 ft. from N and 660 ft. from E, Sec. 18C, Blk. 2, H.&T.C. Sur.
T.D. 3,098 ft.; underreaming csg. at 3,026 ft.
Roeser & Pendleton's No. 2 Hill, 2,310 ft. from N and 330 ft. from E, Sec. 203, B.B.B.&C. Sur.
Drlg. 2,972 ft.

GLASSCOCK COUNTY

John I. Moore et al's No. 1 J. S. McDowell, 1,980 ft. from N line and 660 ft. from E line of Sec. 22, Blk. 34, Twp. 2s, T.&P. Sur.
S.D. 8,501 ft.; ready to deepen.

HOWARD COUNTY

C. Henson et al's No. 1 B. Scott, 330 ft. from N and 1,650 ft. from E, Sec. 93, Blk. 29, T.&P. Sur.
Drlg. 710 ft.
Slagel's No. 1 Foster, 990 ft. from S and 330 ft. from W, Sec. 43, Blk. 29.
Shut down.

JEFF DAVIS COUNTY

C. M. Joiner's No. 1 Jones & Coffield, 770 ft. from N and 1,322 ft. from E, Sec. 8, Blk. 3, H.&T.C. Sur.
Standard tools.

JONES COUNTY

Byram et al's No. 1 McWright, 300 ft. from N and 660 ft. from W of SW Sec. 5, Blk. 15, Twp. 1s, T.&P. Sur.
T.D. 1,950 ft.; est. 50-bbl. well; T.P. 1,926 ft.
Campbell et al's No. 1 Enevill, 1,400 ft. from N and 270 ft. from W, Sec. 2, M.E.&P. Sur., ¼ mile S of Anson.
Fishing 1,777 ft.
Cal-Tex Oil Co.'s No. 1 Smith, 1,400 ft. from S and 2,000 ft. from E, Sec. 25, Blk. 19, T.&P. Sur.
S.D. 100 ft.
Dr. C. E. Johnson's No. 1 Young, 1,800 ft. from N and 750 ft. from W of SE 200 acres of B. Travenio Sur.
S.D. 1,070 ft.
McKenzie & Bland's No. 1 First Nat'l Bank of Anson, 200 ft. from S and E, Sec. 53, D.&S.A. Sur.
Spudded.
Owen et al's No. 1 Johnson & Dunwoody, 3,750 ft. from S and 330 ft. from W, Sec. 6, Blk. 17, T.&P. Sur.
Spudded and S.D.
Richards et al's No. 1 Ransom, 200 ft. from N and E, Sec. 244, H. M. Clopton Sur.
S.D. 750 ft.
Bill Rhodes' No. 1 Wood, 300 ft. from S and E, Sec. 2, Blk. 3, T.&N.O. Sur.
Drlg. 915 ft.
Texas Inland Oil Co.'s No. 1-A Sayles, 85 ft. W and 160 ft. N of NW cor. of Lot 1, but in Lot 7, Blk. 20, T.&P. Sur.
Drlg. 960 ft.

LOVING COUNTY

D. C. Evans' No. 1 W. D. Johnson, 2,310 ft. from N and 1,650 ft. from W, Sec. 13, Blk. 57, Twp. 1, T.&P. Sur.
S.D. 2,030 ft.; cleaning out.

LYNN COUNTY

Hart Oil Co.'s No. 1 Edwards, 220 ft. from N and 200 ft. from W of SE Sec. 39, L.&S.V. Sur.
S.D. 103 ft.

MARTIN COUNTY

Wright & Scott's No. 1 Flannigan, 330 ft. N and E, Sec. 32, Blk. 37, Twp. 1s, T.&P. Sur.
Spudded and S.D.

MITCHELL COUNTY

Harry Adams' No. 1 Mackey, 1,980 ft. from N and 660 ft. from W, Sec. 13, Blk. 29, Twp. 1n, T.&P. Sur.
Drlg. 1,710 ft.
Sawtell & Grueber's No. 1 Morrison
T.D. 762 ft.; ran pipe.

PECOS COUNTY

Gulf Prod. Co.'s No. 4 White & Baker, 2,310 ft. from N and 330 ft. from E, Sec. 46, Blk. Z, T.C. Sur.
Material.
Messenger's No. 1 Dr. Sibley, 4,930 ft. from S and 990 ft. from W, Sec. 6, Blk. 9, H.&G.N. Sur.
Location.
Shell Pet. Corp.'s No. 1-A Carlson-University, 660 ft. from N and E, Sec. 36, Blk. 16.
Drlg. 1,892 ft.
Trans-Tex. Oil Co.'s No. 1 Caldwell, 330 ft. from E line and 330 ft. from S line of Sec. 27, Blk. 40, Twp. 8, T.&P. Sur.
S.D. 1,301 ft.

REAGAN COUNTY

Dobbs' No. 1 Friend, 2,310 ft. from S and 660 ft. from W of Blk. 3, Wm. Allen Sur., 3 or 4 miles S of Big Lake.
S.D. 225 ft.
Skelly Oil Co.'s No. 1-D H. S. Grayson, 1,980 ft. from N line and 660 ft. from W line of Sec. 33, Blk. 3, University Land Sur.
Drlg. 9,303 ft.

REEVES COUNTY

J. E. Cunningham's No. 1 Altman, 2,616 ft. from N line and 1,980 ft. from E line of Sec. 1, C. C. Wyatt Sur.
S.D. 3,672 ft.
Herbert Oil Co.'s No. 1 Williams & Walker, 5,280 ft. from S and 1,320 ft. from E, Sec. 17, Blk. 6, H.&G.N. Sur.
Material.

RUNNELS COUNTY

Dennis et al's No. 1 Wash, 550 ft. from N and 560 ft. from E of W half, Sec. 123, E.T.R.R. Sur.
Spudded and S.D.
Melrose Oil Co.'s No. 1 L. P. Woods, 150 ft. from NE lines and 3,475 ft. from W line of survey, Willett Holmes Sur. No. 166.
S.D. 2,507 ft.
R. Wells' No. 1 James, 396 ft. from N and 330 ft. from E of James tract in Sec. 16, D. Diaz Sur.
S.D. 1,100 ft.

SCHLEICHER COUNTY

John M. Cooper et al's No. 1 Bert Page, 1,290 ft. from N line, 1,470 ft. from W line of Sec. 40, Blk. L, G.H.&S.A. Sur.
5,987 ft.; running 2½-in. tubing with 2 packers and will test.
W. C. Proctor et al's No. 1 Judkins & Spencer, 1,920 ft. from S and W of W. W. Russell grant.
Rigged up; standard tools.

SCURRY COUNTY

Coffield & Guthrie's No. 1 Holliday, 2,310 ft. from N and 330 ft. from W, Sec. 120, Blk. 97, H.&T.C. Sur.
S.D. 3,967 ft.; shot 80 qts.
McLaughlin's No. 1 Allen, 1,331 ft. from N and 1,338 ft. from E, Sec. 298, Blk. 97.
S.D. 485 ft.

STERLING COUNTY

Merry Bros. & Perrini's No. 1 Standsberry, 1,980 ft. from N and E, Sec. 20, Blk. 30, W.&N.W. Sur.
Drlg. 566 ft.

STONEWALL COUNTY

Merry Bros. and Perrini et al's No. 1 Williams, C SW of SW Sec. 6, Blk. C, A.B &M. Sur.
S.D. 3,000 ft.

SUTTON COUNTY

Texas et al's No. 1 Mower, 1,980 ft. from S and W of Sec. 39, Blk. 5, T.W.&N.G. Sur.
Drlg. 3,385 ft.

TAYLOR COUNTY

Dunnigan Bros. et al's No. 3 Hunter, 225 ft. from S and 750 ft. from W, Sub. 14, Willis Sur.
T.D. 2,350 ft.; testing water shutoff.

TERRELL COUNTY

W. A. Sudderth's No. 1 Phelps, 2,157 ft. from N line and 2,482 ft. from the W line of Sec. 5, Blk. 4-A, G. W. Turley Sur.
S.D. 5,635 ft.

UPTON COUNTY

Baldridge Oil Co.'s No. 1 S. Peck, 440 ft. from S and E, Sec. 29, Blk. 41, Twp. 4s, T.&P. Sur.
Location.
Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W, Sec. 197, Blk. F, C.C.S.D.&R.G.N.G. Sur.
Drlg. 11,030 ft.
Humble Oil & Ref. Co.'s No. 1 Pollock, C of NW, Sec. 4, Blk. M.
S.D. 335 ft. to rig up rotary.
King Mountain Pet. Co.'s No. 1 Sherk, 330 ft. from S and W, Sec. 29, Blk. 1, M.K.&T. Sur.
S.D. 800 ft.
Williams & Williams Drlg. Co.'s No. 1 Robbins, 1,600 ft. from S and 1,900 ft. from E, Sec. 4, G.C.&S.F. Sur.
S.D. 2,040 ft.; 1,700 ft. oil in hole.

WARD COUNTY

Alexander's No. 1 Richter, 1,650 ft. from NW, 1,170 ft. from NE line of Sec. 27, Blk. 34, H.&T.C. Sur.
S.D. 1,700 ft.
Atlantic Oil Prod. Co.'s No. 1 Monroe, 566 ft. SW and 350 ft. SE of E cor. of J. C. Russell Sur. No. 3, but in Sec. 2, J. V. Border's Sur.
Material.
Bradford et al's No. 1 E. R. Allen, 660 ft. from NW line and 551 ft. from NE line, Sec. 11, H.&T.C. Sur.
S.D. 760 ft.
Caprito's No. 1 Hardage & Wilson, 2,310 ft. from NE and 990 ft. from SE, Sec. 11, Blk. 34, H.&T.C. Sur.
Location.
Cook Drlg. Co.'s No. 1 Wood, 330 ft. from NW and SW, Sec. 5, W. F. Stewart Sur.
T.D. 2,548 ft.
Gulf Prod. Co.'s No. 52 O'Brien.
Drlg. 2,792 ft.
Gulf Prod. Co.'s No. 55 O'Brien, 1,650 ft. N and 330 ft. from E, Sec. 18, Blk. F.
Cellar.
Postellio & Caprito's No. 1 Purcell, 330 ft from NE and 990 ft. from NW, Sec. 17, Blk. 34, H.&T.C. Sur.
Fishing 2,775 ft.
Rector Oil Co.'s No. 1 Monroe, 660 ft. from SE and NE, Sec. 2, Blk. 1, W.&N.W. Sur.
S.D. 1,800 ft.
Sageland Oil Corp.'s No. 2 Pure-Bennett, 1,650 ft. from NW and 2,310 ft. from SW
S.D. 220 ft.
West Texas O. & R. Co.'s No. 1-C University, 330 ft. from N and E, Sec. 6, Blk. 16.
S.D. 650 ft.

WINKLER COUNTY

Gulf Prod. Co.'s No. 1 Wight, 330 ft. from S and E, Sec. 26, Blk. 46, P.S.L. Sur.
Drlg. 2,242 ft.
Harry Adams' No. 2 Scarborough, 990 ft. from N line and 990 ft. from W line, Sec. 2, Blk. 77, P.S.L. Sur.
Location.
Humble Oil & Ref. Co.'s No. 2-A Walton, 660 ft. from S and W, Sec. 48, Blk. 26.
Location.
Jeffries et al's No. 1 Brown & Altman, 2,310 ft. from S and W, Sec. 6, Blk. B-5, T.D. 3,098 ft.; drlg. by tools.
Dr. Jeffries et al's No. 1 Underwood, 330 ft. from S and 2,310 ft. from E, Sec. 26, Blk. B-3.
S.D. 800 ft.
J. C. Maxwell's No. 1 Clapp, 2,310 ft. from N and 330 ft. from E, Sec. 27, Blk. 26, P.S.L. Sur.
Drlg. 3,282 ft.
Maxwell's No. 1 Daugherty.
T.D. 2,714 ft.; ran 6⅝-in. csg.
R. S. Mathews et al's No. 1 Evans, 1,320 ft. from N line and 1,320 ft. from W line, Sec. 46, Blk. 73, P.S.L. Sur.
S.D. 110 ft.
Mid-Continent Pet. Corp.'s No. 2 Howe, 1,650 ft. from N and 330 ft. from W, Sec. 12, Blk. 26.
Spudded.
Richardson's No. 1 Walton, 1,010 ft. from S and 330 ft. from W, Sec. 1, Blk. B-3.
T.D. 244 ft.; set csg.
Sid Richardson's No. 1 Hill, 1,980 ft. from E line, 660 ft. from S line, Sec. 18, Blk. B-11, P.S.L. Sur.
T.D. 3,829 ft.; drlg. plug.
Sayre Oil Co.'s No. 1 Leck, 330 ft. from S and E, Sec. 3, Blk. 26, P.S.L. Sur.
T.D. 2,700 ft.; 2,500,000 ft. gas at 2,694-2,700 ft.; to set csg.
Sayre Oil Co.'s No. 2 Howe, 330 ft. from N and W, Sec. 12, Blk. 26, P.C.L. Sur.
Location.
Skelly Oil Co.'s No. 2 Halley, 1,320 ft. from N and 2,200 ft. from E, Sec. 25, Blk. B-11, P.S.L. Sur.
T.P. 2,850 ft.; T.D. 2,907 ft.; swabbing
Sinclair Prairie Oil Co.'s No. 2 Cummins, 330 ft. from N and E, Sec. 11, Blk. 26, P.S.L. Sur.
Drlg. 1,912 ft.
Sun Oil Co.'s No. 1 Halley, 2,200 ft. from N and 440 ft. from E, Sec. 24, Blk. B-12, P.S.L. Sur.
Material.

East Central Texas Wildcats

(Continued from Page 120)

HUNT COUNTY

Cauble & Thompson's No. 1 Reed, 330 ft. N of northerly NE cor. of C. B. Payne Sur., but in F. Thweatt Sur., 3 miles SE of Greenville.
S.D. 1,415 ft.
Shawver et al's No. 1 Phillips, 1,200 ft. E of Winan's No. 1 Phillips, University Lands Sur., 2 miles W of Commerce.
Rigged up.

KAUFMAN COUNTY

Germany et al's No. 1 Clark, 951 ft. N and 1,000 ft. W of tract, S. Eden Sur.
S.D. 1,728 ft.
Griffins' No. 1 G. W. Martin, 1,660 ft. from W and 250 ft. from N of 140-ac. tract, from W. L. C. Butler Sur., 2 miles NE of Kemp.
S.D. 27 ft.
L. P. Kean's No. 1 J. B. Hunter, R. Sowell Sur., 300 ft. from SW and 150 ft. from SE of 50-ac. tract, 4 miles S of Terrell.
Coring 2,875 ft.

LIMESTONE COUNTY

Chapman's No. 1 Hunt, 200 ft. from N and 350 ft. from W line 34.75-ac. tract, Israel Wood Sur., 3 miles NE of Kosse.
S.D. 2,342 ft.
C. F. Carter's No. 1 Dean, 660 ft. from SE and 330 ft. from SW lines of 75-ac. tract, P. Valella Sur., 3½ miles SW of Mexia.
S.D. 1,717 ft.
Doughtry et al's No. 1 S. Welch, 150 ft. from NW and 900 ft. from NE of 77.64-acre tract in A. Varilia Sur., 4 miles W of Groesbeck.
T.D. 852 ft.
Schultz' No. 1 Roy Ward, NE cor. of 78.3-ac. tract, 5 miles W of Mexia Field, Harrison York Sur.
Derrick.
V. V. Waite's No. 1 Barrow, 660 ft. from S and 950 ft. from E line of 320-ac. tract, W. G. McKenzie Sur., 3½ miles NW of Thornton.
Derrick.

NACOGDOCHES COUNTY

Murray Oil Co.'s No. 1 C. B. Watkins, 150 ft. from N line and 330 ft. from NW lines of 160-ac. tract, 3 miles S of Caro, H. Y. Bailey Sur.
S.D. 3,925 ft.
Wells et al's No. 1 Z. Ramblin, 900 ft. N and 330 ft. W of SE cor. of tract and survey, J. Simpson Sur., 12 miles NE of Nacogdoches.
S.D. 135 ft.

NAVARRO COUNTY

Bennett Brothers' No. 1 T. E. Stewart, 150 ft. from NE line of lease, 10 miles SW of Corsicana, Wm. R. Bowen Sur.
S.D. 1,136 ft.
R. B. Codding et al's No. 1 Lela Kent, 450 ft. from S line and center of N and S lines of lease, 3 miles NE of Chatfield, C. B. Emmons Sur.
S.D. 1,550 ft.
W. J. Keeling et al's No. 1 J. F. Rushing 484 ft. from N line and 150 ft. from W line of 134-ac. tract, 6 miles SW of Richardson, Henry Ford Sur.
S.D. 2,830 ft.
McCullough et al's No. 1 C. Berry, 330 ft. from SE cor. of 35-acre tract, 1 mile W of Dawson, William Moss Sur.
S.D. 625 ft.
McGlothlin's No. 1 Dobbin, 150 ft. W and midway from N and S lines of 138-ac. tract, E. Lowry Sur., 2 miles N of Corsicana.
Location.

Syam Oil Co.'s No. 1 Love, 330 ft. out of SE cor. of J. L. Strother Sur.
S.D. 4,030 ft.

RED RIVER COUNTY

Abercrombie & Harrison's No. 1 Roberts, 4,500 ft. from E and 500 ft. from N line of John Ware Sur., 3 miles N of Clarksville.
S.D. 1,154 ft.
Dinger's No. 1 W. T. Norris, 1,000 ft. from S and 1,900 ft. from W of 400-ac. tract, Jos. Guest Sur., 1 mile S of Detroit.
Derrick.

RUSK COUNTY

George Hudson et al's No. 3 Jeff Phillips 150 ft. from N line of survey and 700 ft. from W line of 100-ac. tract, 4 miles SE of Minder N. Villaria Sur.
S.D. 3,673 ft.
Ben Lamb's No. 1 H. Leath, 330 ft. out of NW cor. of 185-ac. tract in L. J. Dooley.
T.D. 3,640 ft.; coring.
Richardson's No. 1 Wood.
Derrick.

SMITH COUNTY

Deck et al's No. 1 Dendall, 330 ft. from S and W of 55-ac. tract, J. Williams Sur., 3 miles E of Van Field.
S.D. 1,100 ft.

VAN ZANDT COUNTY

Delcambre et al's No. 2 Crim, 400 ft. from S and 150 from E lines, Nacogdoches Co. School Lands.
T.D. 1,327 ft.
Pet. P. L. & Storage Co.'s No. 4 Mrs. S. McGee, 450 ft. S of N line and 155 ft. E of W line of 53.4-ac. tract, Blk. 20.
S.D. 1,268 ft.
Florence Oil Co.'s No. 2 Sanger, 316 ft. W of SE cor. and 151 ft. S of S line of Pure-Blackstock lease, John Walling Sur. Rig.
Gillum and Allen et al's No. 1 A. T. Bass, 150 ft. from W line and 150 ft. from N line of 10-ac. tract, William Hart Sur.
S.D. 1,700 ft.
Green and Winn's No. 1 Eaton, 330 ft. out of most westerly SW cor. of J. Wilson Sur., 2 miles SE of Martin.
Location.
J. Beren et al's No. 1 Bryant, 483 ft. N of same operator's dry hole, Nacogdoches County School Land Sur.
S.D. 1,325 ft.
Lane-Tex Co.'s No. 1 Listenbee, 150 ft. N and E of tract, Wm. Daniel Sur.
S.D. 1,279 ft.; ran liner.
Martin-Evans' No. 2 Palmer, 544 ft. from S and 636 ft. from E of 69.5-ac. tract, Nacogdoches County School Land.
S.D. 520 ft.
Overton Ref. Co.'s No. 5 Carter, 1,028 ft. S and 300 ft. E of No. 2, Wm. Daniels Sur.
T.D. 2,980 ft.; P.B. to 2,970 ft.; to put on pump.
Miller et al's No. 1 J. M. Palmer, 150 ft. from S and E lines of 69-ac. tract, Nacogdoches County School Land Sur.
Fishing 1,152 ft.
Peden and Olson's No. 1 J. M. Palmer, 300 S of No. 2 and 140 ft. from W line of tract, J. Goodman Sur.
S.D. 1,288 ft.
M. Rouch et al's No. 1 Bearden & Palmer 150 ft. out of SE cor. of 61-ac. tract, Nacogdoches C.S.L.
S.D. 1,237 ft.
Wadley's No. 1 Carnes, 500 varas N and 1,000 varas E of most northerly SE cor. of 588-ac. tract, S.P. Sur.
S.D. 4,200 ft.

WOOD COUNTY

Bryant & Spear's No. 1 Consumer Lignite Co., 150 ft. out of most westerly NE cor. of J. F. McMahon Sur., SE of Alba.
S.D. 750 ft.

Southwest Texas Wildcats

(Continued from Page 118)

DUVAL COUNTY

Buffalo-Texas Syndicate's No. 1 Escobas, 2,777 ft. from N line, 1,944 ft. from W line of 930-ac. tract in San Francisco grant.
Coring sand 3,850 ft.
Eckert-Peacock et al's No. 1 C. W. Sutherland, 330 ft. N and W lines of SW¼ NE¼ of Sur. 138.
W.O.C. 2,366 ft.
Grimes et al's No. 1 Fitzsimmons, 300 ft. from S line, 150 ft. from E line of Sur. 291.
Drlg. 2,880 ft.
Humble O. & R. Co.'s No. 1 Mucio Vela, 330 ft. S and E lines of N½ of Sec. 42, T.T. Ry. Co. Sur.
T.D. 2,796 ft.; tested 1,000 ft. of oil in 20 min.; 45 lbs. pressure.
W. C. McBride's No. 1-B Hagist, skidded rig from No. 1-A, Sur. 265.
Coring 2,164 ft.
Intrepid Oil Co.'s (E. R. Thomas) No. 1 Parr, 2,590 ft. S line, 150 ft. E line of Sur. 135, E. H. Valentine Sur.
Drlg. 3,740 ft.

EDWARDS COUNTY

Harry Adams' No. 1 Holman, 1,650 ft. N line, 330 ft. from E line, Sec. 22, C.C.S. D.&R.G.N.G. Sur.
S.D. 602 ft.; showing oil at 520-25 ft. and trying to pull csg.

FAYETTE COUNTY

Clark et al's No. 1 Becker, 750 ft. NW line, 1,300 ft. SW line of 142.74-ac. tract, in A. E. Baker League.
Location.
Ross Fenton's No. 1 Kasper (362-ac.), 3,000 ft from NE line, 1,230 ft. from SW line, of Thos. Green Sur. No. 28.
Location.

FRIO COUNTY

Amerada Pet. Co.'s No. 3 Halff & Oppenheimer, 2,100 ft. from southwesterly NW line, 300 ft. NE line of B. J. Gilman Sur. No. 16.
Set surface csg. 20 ft.
W. T. Shoemaker's No. 1 M. Rocha, 150 ft. SW cor. of Carl Wenzel Sur. No. 139.
Standing 1,517 ft.

GILLESPIE COUNTY

Ed L. Nixon's No. 3 Lindig, 12,694 ft. S line, 1,333 ft. W line, Maria Josepha Guerra Sur. No. 41.
S.D. in lime 692 ft.

GOLIAD COUNTY

Magnolia Pet. Co.'s No. 1 Albrecht, 660 ft. N line, 330 ft. SW line of J. P. Reid Sur.
Drlg. 5,103 ft.

GONZALES COUNTY

Southern Dev. Co.'s (Kyle & Von Rossun) No. 1 W. S. Atkinson, 2,054 ft. from N line, 1,034 ft. from E line of 185-ac. tract in S. Y. Reams Sur.
Building steel derrick.

GUADALUPE COUNTY

J. W. Burrows' No. 1 Beuhring, 1,000 ft. S line, 750 ft. W line of Jos. Clements Sur., SW Darst Creek Field.
Location.
Diamond Half Oil Co.'s No. 1 Hoffman, 660 ft. from NE line, 1,850 ft. from SE line of Wakefield and Stewart Surveys.
Drlg. 2,350 ft.
A. D. Locke's No. 1 Lowman, 210 ft. from SE and SW lines of 2,500-ac. tract in C. Campbell Sur.
Moving in spudder.
H. H. Weinert et al's No. 1 Sylie Schmidt, beginning at most southerly S line of E. Irhof 327-ac. tract, NW 700 ft. thence at R/A 300 ft., Wakefield Sur.
S.D. 2,540 ft.

HIDALGO COUNTY

Clay, Spencer & Hood's No. 1 Brooks & Showers, 330 ft. N and E lines of Lot 4, Blk. 26, Por. 79-80.
Drlg. 1,678 ft.
Carpenter & Vernon's No. 1 G.L.&C.C., 330 ft. from E line of Porcion 100, 2,350 ft. S of Highway No. 4.
Set surface csg. 126 ft.
Hardy & Lynch's No. 1 Southland Dev. Co., 330 ft. N and W lines, Blk. 14, Por. 17.
Spudded and S.D.
Harrison, Medline et al's No. 1 G. L. & C. Co., 950 ft. W line, Por. 42, 330 ft. N of Old Military Road, in Por. 43.
Coring sand-shale 2,725 ft.
Kingwood Oil Co.'s No. 1 Daskom, 215 ft. W line, 218 ft. N line of Lot A-23, Blk. 49, Porcion 41.
Drlg. 3,420 ft.
Kingwood Oil Co.'s No. 1 Doughty, 1,214 ft. from N line, 3,750 ft. from W line of Tract 90, in San Salvador del Tule grant.
Drlg. 3,250 ft.
Maxwell-Young's No. 2 King, 175 ft. N and E lines of Lot 8, Blk. 11.
T.D. 875 ft.; to D.D.
Union Sulphur Co.'s No. 1 John C. Engleman, 400 ft. S and W lines, Lot 8, Blk. 79, Mestenas tract.
Drlg. 7,495 ft.
Downey & Morton's No. 1 Daskom, 450 ft. from E line, 55 ft. from S line of Blk. 34, Por. 45.
Standing 2,310 ft.
Gato Oil Co.'s No. 1 Brooks & Showers, 500 ft. W line, 400 ft. N line of Tract 8, Blk. 26, Por. 79.
Drlg. 4,320 ft.

JIM HOGG COUNTY

Miller & Pippin's No. 1 Yeager, 527 ft. S line, 150 ft. E line of Blk. 6, Sur. 20.
Spudded.
G. H. Von Rossun's (John D. Norwood) No. 1 C. W. Hellen, 330 ft. N and W lines, Sur. 48.
T.D. 1,338 ft.; S.D. for orders.
J. M. Shugart's No. 1 R. Holbien, 100 ft. from E line, 330 ft. from S line of Blk. 55, Sur. 17 of Holbien Subd., of Las Animas grant.
S.D. 490 ft.
Texas Co.'s No. 1 Guiterrez, 2,310 ft S line, 330 ft. W line of Sur. 164.
Drlg. 3178 ft.
Texas Co.'s No. 1 C. W. Hellen, 5,742 ft. S line, 6,562 ft. E line of Sur. 150.
Location.

JIM WELLS COUNTY

Maer & Shira's No. 1 Schaeffer, 1,320 ft. E of NW cor. center of Blk. 15, of subdivision of ranch.
Moving in material.

KARNES COUNTY

American Liberty Oil Co.'s No. 1 Von Roeder, 330 ft. from NE and SE lines of 204-ac. tract in Johnson Sur.
W.O.C. after testing 400 lbs. pressure in Pettus sand at 3,350-74 ft.
E. E. Green's No. 1 Miss Olive Henke, 2,640 ft. from SW cor. N along W line, thence at R/A 330 ft., Seguin grant.
Sand 1505-09 ft.; S.D. for repairs; T.D. 2,500 ft.; to deepen.
R. W. Norton's No. 2 Choate, 1,020 ft. from N cor. of 320-ac. tract, 330 ft. SW of NE line, A. Storey Sur.
Ready to move in.

KERR COUNTY

Emerald Oil Co.'s No. 1 Whitworth, 1,160 ft. from S line and 1,333 ft. from E line of Sec. 1,439, of the H.E.&W.T. Sur.
T.D. 675 ft.; preparing to resume drlg.
Jeff Love and Eastland Oil Co.'s No. 5-B Jeff Love, 1,500 ft. SE of No. 1 and 1,530 ft. from SE cor. and 300 ft. from N line of Sec. 1,591.
1,550 ft. of oil in hole; T.D. 2,530 ft.; bailing.

LEE COUNTY

Humble O. & R. Co.'s No. 1 J. Simmons, 269-ac., 3,650 ft. from S line, 2,510 ft. from E line, Hunter Sur.
Spudded and drlg.
Jas. E. Pederson's No. 1 Turner, 1,860 ft. from N line, 150 ft. from E line of tract, David Hudson Sur.
Drlg. lime 6,460 ft.

LIVE OAK COUNTY

Arthur, Brunson & Hall's No. 1 W. P. Howard, 150 ft. from W line, 2,400 ft. from N line of 200-ac. tract, in B. Ayers Sur.
Rigging up.
Baugh & McMillan's No. 1 Walton & Campbell, 1,500 ft. NE line and SE line of D. R. Fant Sur.
Drlg. 1,159 ft.
Berry & Hayes' No. 1 C. L. Terrell, 1,600 ft. N line, 330 ft. E line of Henry Sur.
Location.
Henderson Coquat et al's No. 1 Little, 1,320 ft. NE of S cor. of M. M. Shipp Sur., and 330 ft. N of S line.
S.D. 5,300 ft.
Loma Oil Co.'s No. 1 O. M. Withers, 330 ft. S and W lines of tract in T. B. Sparks Sur.
Abd. 1,023 ft.
Luling O. & G. Co.'s No. 1 Rex, C of SW¼ of G.H.&H. Sur., Abst. 197, 3 miles S of Mileska.
Rigging up.

MAVERICK COUNTY

Escher & Andrews' No. 1 Mathews, NW cor. of B. C. Flowers Sur.
S.D. 480 ft.

MEDINA COUNTY

Scoggins & Sanders' No. 1 L. W. Burrell 150 ft. from E line, 1,750 ft. from N line of M. E. Gage Sur. 395.
S.D. 1,280 ft.

MILAM COUNTY

C. F. Drake et al's No. 1 Standard Coal Co., 970 ft. SW line, 1,700 ft. SE line of G. L. Johnson Sur.
T.D. 1,750 ft.; moving in heavier rig.
Second Natl. Bank's No. 1 B. P. Ward, 150 ft. SW line, 950 ft. SE line of 100-ac. tract, L. Taylor Sur.
Drlg. hard lime 3,219 ft.

REAL COUNTY

H. J. Heartwell et al's No. 2 L. J. Maby, 694 ft. from W line and 2,153 ft. from S line of A.B.&M. Sur. No. 175.
T.D. 2,837 ft.; standing.

SAN PATRICIO COUNTY

Allied Minerals' No. 1-A Ramsey, 466 ft E, 220 ft. N of SW cor. of the North B. Giddings Sur. on a 1,000-ac. tract.
Sandy shale 2,642 ft.; moving in heavier rig; S.D.
Lonnie Glasscock's No. 1 M. F. Timmons, 330 ft. out of SE cor. of Blk. 27, San Patrico townsite.
No report.

STARR COUNTY

Armstrong, Emanuel & Adams' No. 1 S.C. C.C., 330 ft. from S and E lines of Blk. 57, Porcion 88-89.
Drlg. 2,350 ft.
C. R. Borah's No. 1 A. Guerra, San Jose grant, 330 ft. from N and 150 ft. from E lines of Sec. 6 (NE part of county).
S.D. 2,687 ft.
Conway & Emanuel's No. 1 S.C.C.C., Blk. 63, Por. 88.
Drlg. 2,409 ft.
John H. Clopton's No. 1 Roos, 13,155 ft. N of Highway 4, along E line of Por. 92, 3,300 ft. N, 80 deg. 45 min. W.
S.D. 1,637 ft.
Crawford et al's No. 1 Hicks et al, 150 ft. SE and NE line of NW, Perdernal grant.
Drlg. 1,500 ft.
Dalnwood Oil Co.'s No. 1 Guerra, 5,280 ft. W line and N line of Share 26, Porcion 70-71-72.
Location.
R. H. Vise's No. 1 Carruth, 3,690 ft. S line, 3,300 ft. W line, Share B-1, Porcion 91-92.
Drlg. 3,720 ft.
J. T. Kyle et al's No. 1 G.L.&C.C.O., 330 ft. midway between N and S lines of Lot 4, Porcion 100.
Drlg. 1,200 ft.
Morris & Bryan's No. 1 Hicks & Hicks, 660 ft. NE line, 2,000 ft. SE line of 500-ac. tract, Pedernal grant.
Drlg. 1,103 ft.
C. L. Smith et al's No. 1 J. M. Longfellow, 330 ft. out of NW cor. of Sur. No. 281.
Drlg. 5,125 ft.
Conroe Drlg. Co.'s No. 1 Guerra, 330 ft. from NE and SE lines of Blk. 25, J. N. Crawford Subd., Por. 56, Jurisdiction of Mier.
Drlg. 2,020 ft.; no report.
Dale Sneed's No. 1 Y. and V. Guerra, 330 ft. W line of Por. 68, 330 ft. S line of 1,000-ac. block of N end of Por. 92, in Por. 68.
Spudded.
E. L. Younkin's No. 1 Kelsey Bass, 330 ft. from S line, 7 ft. from W line of Blk. 19, in Porcion 87.
Preparing to resume drlg. 2,572 ft.

TRAVIS COUNTY

Humble O. & R. Co.'s No. 3 Buck Christian, 2,150 ft. SW line, 2,300 ft. NW line of J. P. Kemp Sur.
Abd. 300 ft.
Mimms, New & Anderson's No. 1 Bohm, 1,250 ft. SW along NW line of Bohm tract from N cor. and 150 ft. NW in S. Del Valle Sur.
S.D. 510 ft.
D. Prewitt's No. 1 Ed Peterson, 150 ft. from SE and SW lines of tract, L. Kimbro Sur.
Moving in rotary.
C. A. Stubbs' No. 1 Julius Kerlin, 530 ft. SW line, 450 ft. NW line of 125-ac. tract in I. Lindsey Sur. No. 61.
Drlg. 1,060 ft.
Title et al's No. 1 Johnson, 330 ft. each way from cor. of 50-ac. tract in Kimbro Area.
Drlg. Taylor marl 965 ft.

WEBB COUNTY

Mills Bennett's No. 1 Slator, 330 ft. SW and NW lines of Blk. 46, Mission Oil Co. Subd., Borrego grant.
Drlg. 1,670 ft.
Payne et al's No. 1 Hoggterp, Blk. 6, Sur. 1,110, N of Olliton.
Spudded and S.D.

WILLACY COUNTY

South Texas Dev. Co.'s No. 1 Armendais, 1,500 ft. W of Arroya Colorado River, 1,200 ft. N of S line of Tract 4.
Drlg. 2,509 ft.

WILLIAMSON COUNTY

F. L. Brown's No. 1 Carl Seggren, 960 ft.

MILLIONS are spent digging, piping, refining and marketing oil.

MILLIONS are lost thru waste just because it has become dirty and carbonized.

Perhaps you have never heard of the NUGENT PRESSURE FUEL AND LUBRICATING OIL FILTERS FOR DIESEL AND GAS ENGINES

Well, you have a very agreeable surprise in store for you.

We have built fuel and lubricating oil filters since 1897—capacities from 5 to 2000 gallons per hour and saving 99-8/10% of the old used oil.

Ours is the *only method* of filtration that will take the *fog* out of dirty oil.

Below is a photo of oil before and after filtering.

Note the great difference—one is darker and has a sediment in the bottom of the glass tube, the other has no sediment and is clear.

We can do this for you.

Send for Bulletins 7 and 7-A

WM. W. NUGENT & CO.

408 N. Hermitage Ave.,

Chicago, Illinois

W line, 240 ft. S line of 114.12-ac. tract in S. Woodruff Sur.
Abd. 1,450 ft.; (depth approx.).
Fritz Fuchs' No. 1 Pflugger, 500 ft. S and E lines of Jacob Sapington Sur.
Drlg. 490 ft.
Johnson & Ray's No. 1-B M. Oxford Smith, 600 ft. S of No. 1-A in S. Williams Sur.
S.D. 20 ft.
Johnson & Ray's No. 1-A Mary Smith Oxford, 350 ft. S, 40 deg. E of No. 1, Williams Sur.
S.D. 1,149 ft.
J. Morgan Russell's No. 1 Nelson ,150 ft. S line, 1,115 ft. E line of John L. Justice Sur. No. 2.
S.D. 894 ft.

WILSON COUNTY

Ray Oil Co.'s No. 1 J. M. McDaniel, 1,700 ft. from SW line, 350 ft. from NW line of 193.5-ac. tract in Concepcion Bostello Sur. No. 9.
Rigged up and S.D.

ZAPATA COUNTY

Danvers & Harrison's No. 1 M. J. Vela, 686 ft. NE line and 300 ft. NW line, or 3,140 ft. E line and 320 ft. N line of Por. 39, Blk. 7, Bela Subd.
Drlg. 1,770 ft.
H. B. & W. Oil Co.'s No. 1 Cuellar, 150 ft. NE line, 450 ft. SE line of Blk. 3, Sur. 2, Papas Subd., Porcion 34.
Standing 1,345 ft.
H. & M. Oil Co.'s (Virginia Hardee) No. 1 Sistor, 514 ft. from SW line, 150 ft. from SE line of Blk. 65, Borrego grant.
Standing 32 ft.
Walter P. Luck's No. 1 A. Trevino, 175 ft. from S and E line of Blk. 41, Sur. No. 13, W.O.C. 43 ft.
R. B. Morrison's No. 1 Vela, 1,320 ft. SW line, 660 ft. SE line of Blk. 5, Re-Plat of Jamison Subd., Por. 30.
T.D. 2,235 ft.; I.P. 10,000,000 ft. of gas, 910 lbs. rock pressure.
Joe Palmer's No. 1 J. M. G. Martinez, 150 ft. SE and SW line, Blk. 37, Sur. 434.
Drlg. 375 ft.

ZAVLA COUNTY

Van Beavers et al's No. 1 Flowers, 1,600 ft. E line, 660 ft. N line of Sec. 19, I.&G.N. Ry. Sur., Blk. 1.
Rigging up; ready to spud.

Southwest Texas Proven

Week Ending January 26

CARROLL—BASTROP COUNTY

Nelson Pruett's No. 2 J. H. Carroll, 960 ft. from SW line, 4,150 ft. from NW line of A. Mays Sur. No. 19.
S.D. 50 ft.

NORTH CEDAR CREEK—BASTROP COUNTY

Joe E. Mills' No. 1 Mrs. W. J. Cardwell, 900 ft. from SE line, 1,200 ft. from SW line of tract, J. A. Navarro Sur.
S.D.; chalk 1,820 ft.

CARSER—BEE COUNTY

Luling O. & G. Co.'s No. 5-B Ruhmann, 330 ft. from NE and NW lines of Blk. 29 of P. A. Butler Subd. of Wm. F. Hodges Sur.
T.D. 3,088 ft.; I.P. 450 bbls. per day; ¼-in. choke; 150 lbs. pressure.
Luling O. & G. Co.'s No. 3 R. E. Miller, N offset to Firm's No. 1 Grissom.
Rigging up.
Luling O. & G. Co.'s No. 1 Hudman, SW offset to Firm's No. 1 Grissom.
Rigging up.
El Toro Co. of Houston's No. 1 Gardner, 870 ft. from S line, 920 ft. from E line of 105-ac. tract, F. Lewis Sur.
Rigging up.

PETTUS—BEE COUNTY

Houston Oil Co.'s No. 5 Newman, 660 ft. N of No. 4.
Dry and abd. 3,952 ft.

TULETA—BEE COUNTY

Blanco Oil and Buchanan's No. 2-A Perez, 330 ft. from S and E lines of their 100-ac. "A" lease.
T.D. 2,925 ft.; cmtd. liner in sidetracked hole.
Heyser, Heard & Walton's No. 1 Walton, C of Blk. 1, Sur. 20.
T.D. 3,966 ft.; I.P. 6 bbls. per hr; 3/16-in. choke.
Heyser, Heard & Walton's No. 2 Waldon, Tract 16, of SW¼ of Sec. 9.
Drlg. 3,100 ft.
Edwin M. Jones' No. 2 Robinson, 330 ft. from S line, 990 ft. from E line of SW¼ of Sec. 5.
Location.
Edwin M. Jones' No. 4 Skinner & Harris, 1,650 ft. N line, 330 ft. E line of S½ of NW¼ of Sec. 10.
Tested gas sand at 3,933-46 ft.; took another core at 3,941-46 ft.; showed no pressure and only 80 ft. of oil and mud.
Edwin M. Jones' No. 6 Skinner & Harris, 330 ft. from W line, 990 ft. from S line of E½ of NW¼ of Sec. 10.
Drlg. 1,300 ft.
Houston Oil Co.'s No. 2 Ed Strauss, C Lot 6, Sec. 9, Hahl Subd., Uranga grant.
T.D. 3,990 ft.; I.P. 15 bbls. per hr. on ¼-in. choke.
Houston Oil Co.'s No. 3 Ed Strauss, 660 ft. W of No. 1, Lot 3, SW¼ of Sec. 9 in J. M. Uranga grant.
Derrick.
Houston Oil Co.'s No. 4 Ed Strauss, 660 ft. W of Heyser & Heard's No. 1 Walton, Lot 2, NW¼ of Sec. 20, J. M. Uranga grant.
Moving in materials.
Mills Bennett's No. 2 Harris, 990 ft. from E line, 330 ft. from S line, S½ of NW¼ of Sec. 9, Uranga grant.
Derrick.
Mills Bennett's No. 2 Silcock, 330 ft. from S and E lines of 160-ac. tract.
Moving in material.
Mills Bennett's No. 1 Tuleta Mercantile Co., 330 ft. from N and W lines of SW¼ of Sec. 9.
T.D. 3,904 ft.; I.P. 135 bbls. per day; 850 lbs. tubing pressure on 3/16-in. choke.
Southwest Exploration Co.'s No. 1 Heyden & Bruckham, C of farm tract, 330 ft. from N and W lines of Sec. 20, Uranga grant.
Rigging up.
Tuleta Oil Co.'s No. 5 Skinner & Harris, N offset to Bennett's No. 1 Tuleta Merc.
Spudded.

HOCH—BEXAR COUNTY

Jack Crouch's No. 5 Hoch, 330 ft. S of No. 4, Baerera Sur. No. 58.
Drlg. shale 250 ft.
Richcul Oil Co.'s No. 1 Kohler, 1,000 ft. from N line, 155 ft. from E line of J. Vogt 96.5-ac. tract in J. M. Baerera Sur. No. 58.
Rigging up.
Richcul Oil Co.'s No. 1 W. A. F. Vogt, 160 ft. from E line, 972 ft. from S line of 300-ac. in S. McCullough Sur. No. 54.
Digging pits.
Richcul Oil Co.'s No. 1 Weilbacker, 155 ft. from E line, about 2,250 ft. S of highway in Jett Sur.
Drlg. shale 542 ft.

ALTA MESA—BROOKS COUNTY

Mrs. Florence East's No. 1 G. Madrigal, 800 ft. S line, 330 ft. E line of Share "B," R. G. Salinas grant.
No report.
Mrs. Florence East's No. 2 Madrigal, 2,970 ft. S line, 990 ft. W line of Share "B," R. G. Salinas grant.
Standing 120 ft.

DALE—CALDWELL COUNTY

McNeil Pet. Co.'s No. 1 J. M. Miears, 660 ft. NW line, 700 ft. SW line of 327-ac. tract in W. C. Swearingen Sur.
W.O.C. 2,401 ft.

DUNLAP—CALDWELL COUNTY

Moseley's No. 1 J. M. Pierce, 150 ft. E. line, 400 ft. S line of G. C. and W. P. Walker tract, Seale Sur. No. 8.
Abd. 2,204 ft.

GOVERNMENT WELLS POOL—DUVAL COUNTY

Central Prod., Inc.'s No. 2 Wendt, 330 ft. from S line, 990 ft. from W line of NE¼ of Sur. 43.
Derrick.
Edgington & Murray's No. 1 C. W. Hahl, 330 ft. N and E lines, Blk. 16, Sur. 250.
W.O.C. 2,361 ft.
Government Wells Oil Co.'s No. 10 Lundell (State), 660 ft. N of No. 8.
Waiting on pump at 2,267 ft.; set 7-in. csg. at 2,222 ft.
Govt. Wells Oil Co.'s No. 12 State, 330 ft. from S and W lines of SE¼ of Sur. 60.
Rigging up.
Highland Oil Co.'s No. 2 Hahl, 260 ft. from W line, 760 ft. from N line of SE¼ of NW¼ of Sur. 62.
Drlg. 2,108 ft.
Magnolia Pet. Co.'s No. 2 Duval County Ranch, 330 ft. from S line, 990 ft. from E line of Sur. No. 57.
Derrick.
Magnolia Pet. Co.'s No. 12 Hahl-Sutherland, 330 ft. from S line, 990 ft. from W line of NW¼ of Sur. 61.
T.D. 2,325 ft.; I.P. 10 bbls. per hr.
Magnolia Pet. Co.'s No. 4 Hahl-Norton, 990 ft. from W line, 330 ft. from N line of W½ of SW¼ of Sur. 61.
Drlg. 654 ft.
Magnolia Pet. Co.'s No. 2 Herbst, 320 ft. from N and W lines of Sur. 70.
Drlg. 1,325 ft.
Magnolia Pet. Co.'s No. 4 Ruiz, 1,141 ft. from SW line, 330 ft. from NW line of Sur. 127.
Moving in material.
Magnolia Pet. Co.'s No. 2 D. Ruiz, 672 ft. W line, 736 ft. NW line, Sur. 127.
W.O.C. 2,428 ft.
Magnolia Pet. Co.'s No. 1 Miguel Ruiz, 330 ft. from S and E lines of NW 200-ac. of S.A.&M.G. Ry. Sur. No. 1.
Coring 1,996 ft.
Russ Pet. Co.'s No. 6-C D.C.R.C., 330 ft. S and W lines of W½ NE¼ of Sur. 62.
T.D. 2,342 ft.; I.P. 250 bbls. per day.
Salt Dome Oil Co.'s No. 3-B Moody, 990 ft. from N and E lines of NE¼ of Sur. 60.
Coring for sand.
Salt Dome Oil Co.'s No. 1 Moody, 330 ft. from N line, 1,670 ft. from W line of Sur. No. 60.
T.D. 2,382 ft.; I.P. 250 bbls. per day.
Smith & Story's No. 12 Lundell, 330 ft. S line, 990 ft. W line of Sur. 48.
T.D. 2,265 ft.; I.P. 40 bbls. per day on pump.
Smith & Story's No. 13 Lundell, 990 ft. from N line, 330 ft. from E line of S½ of Sur. 48.
Spudded.
Southwest Drlg. Co.'s No. 15 Wendt, 990 ft. from W line, 330 ft. from N line of SE¼ of Sur. 43.
Rigging up.
E. R. Thomas' No. 1 Bishop Cattle Co., 2,325 ft. E line, 330 ft. N line of S½ of Sur. 135.
Drlg. 203 ft.

HOFFMAN—DUVAL COUNTY

Southwest Drlg. Co.'s No. 1 Cuellar, 330 ft. SW and NW line of NE¼ of Sur. 114.
Dry and abd. 3,008 ft.

LUCAS—LIVE OAK COUNTY

Houston Oil Co.'s No. 30 Cartwright, 1,030 ft. N of No. 26.
Drlg. hard shale and lime at 3,790 ft.
Lion Oil Ref. Co.'s No. 3 McNeil, 660 ft. N, 660 ft. E of No. 1.
Location.

SAM FORDYCE—HIDALGO COUNTY

Alamo Drlg. Co.'s No. 2 Guerra, 233 ft. from N line, 330 ft. from E line of NW 12.5 acres of S 75 acres, of Tract 254, Por. 40.
Rigging up.
Davis & Harrison's No. 1-A C. E. Smith, Tract B-5, NW 5 acres, 300 ft. from N line, 165 ft. from W line, Por. 41.
W.O.C. 2,743-46 ft.
Henshaw Oil Corp.'s No. 1 Seabury et al, C of SW 11.5 acres of NE 45.25 acres, Tract 256, Por. 38.
Location.
Moncrief & Showers' No. 1 C. E. Smith, 320 ft. from N line, 323 ft. from E line of Tract 3-B, Por. 41.
T.D. 2,762 ft.; I.P. 3 bbls. per hr.; ¼-in. choke; 400 lbs. tubing pressure.
Moncrief & Showers' No. 2-A Lawrence, S end of 9.52 acres in Tract 274, Por. 39.
Spudded.
Moss & Bass et al's No. 1 F. B. Guerra, 282 ft. N line, 233 ft. W line of W 25 acres of S 50 acres of E 290 acres, Tract 254, Por. 40.
Location.
J. M. Newman et al's No. 2 Flores, 190 ft. S line, 240 ft. W line of 10-ac., Tract 275, Porcion 40.
W.O.C. 2,770-73 ft.
Reynosa Oil Co.'s No. 1 F. B. Guerra, 330 ft. from N and W lines of NW 20 acres of SE 40 acres of Tract 256, Por. 39.
Abd. 2,853 ft.
Reserve Oil Co.'s No. 1 Seabury, 330 ft. N and E lines of 28-ac. tract, Tract 256, Porcion 38.
Drilled plugs at 2,769-72 ft.; C.O. on ¼-in. choke; 80 lbs. tubing pressure.
Reserve Oil Co.'s No. 2 Seabury, 330 ft. S and E lines of 28-ac. tract, Tract 256, Porcion 38.
Location.
Rogers O. & G. Co.'s No. 1 Guerra, 600 ft. W offset to No. 1 Guerra, Tract 254, Porcion 40.
T.D. 2,764 ft.; I.P. 12 bbls. per hr.; ⅛-in. choke; 225 lbs. tubing pressure.
Weekly Oil Co.'s No. 2 Smith, 630 ft. N line, 164 ft. E line of NE 34.43-ac. in Tract 278, Por. 40.
T.D. 2,752 ft.; I.P. 100 bbls. per day; ¼-in. choke.
Windsor Oil Co.'s No. 1 Doss, 330 ft. N line, 315 ft. E line of 55-ac. tract, Tract 278, Porcion 40.
T.D. 2,752 ft.; I.P. 12 bbls. per hr.; 5/16-in. choke; 70 lbs. tubing pressure.
Otto Woods' (Kingwood) No. 4 F. B. Guerra, 330 ft. S and E lines of NW 20 acres of S 150 acres, Tract 254, Por. 39.
Moving in derrick.
Otto Woods' No. 4 John Lawrence, 330 ft. from E line, 250 ft. from S line of W 40 acres, Tract 274, Por. 39.
Rigging up.
Otto Woods' (Kingwood) No. 5 John Lawrence, 165 ft. W line, 235 ft. N line of Tract 274, Por. 39.
Moving on.

SANDIA—JIM WELLS COUNTY

O. W. Killam's No. 4 Wade, ¼ mile N of No. 3 Wade.
Drlg. 3,150 ft.
Sinclair Prairie's No. 1-A Seeligson, 630 ft. from N line, 330 ft. from E line of B.S. &F. Sur.
Drlg. 2,455 ft.

SEELIGSON—JIM WELLS COUNTY

Magnolia Pet. Co.'s No. 5 Seeligson, 1,320 ft. N, 660 ft. E of No. 2 well on Farm 1, Blk. 4 of Canalas Sur.
Abd. 4,002 ft.

JACOB POOL—McMULLEN COUNTY

Loma Oil Co.'s No. 103 A. Leonard Jacob, 1,320 ft. S of No. 33-A, 160 ft. E line, W. H. Jacob Sur. No. 3.
Coring 960 ft.
Motes & Bettingfield's No. 3 Lark, 660 ft. S of No. 1 and 330 ft. W line of lease.
S.D. 940 ft.
L. D. Ormsby's No. 1 Jacob Corp., Sur. 50.
Coring for sand 891 ft.
Stewart, Smith & Story's No. 2 Jacob.
Coring 901 ft.

SINTON—SAN PATRICIO COUNTY

Heep Oil Corp.'s No. 2 R. Welder, 466 ft. from S line, 2,000 ft. from Eline of Adeline Welder tract in Victor Loupsey Sur.
Drlg. 2,000 ft.
Heep Oil Co.'s No. 3 Welder, Welder homesite.
Rigging up; no report.
Humble O. & R. Co.'s No. 1 Welder, 2,400 ft. from N and E lines of 300-ac. lease.
Rigging up.
Plymouth Oil Co.'s No. 2-B Welder, start at SW cor. of "B" lease, thence NW along the W line 2,100 ft., thence 350 ft. NE at R/A.
Drlg. 6,100 ft.

LOS OLMOS—STARR COUNTY

H. L. Curry's No. 1 Bass, 835 ft. E line, 2,522 ft. N line of Sur. 8, Por. 75-76-77.
Rigged up.
J. P. Kennedy's No. 3 Kelsey-Bass, 200 ft. SE of No. 7 Kelsey-Bass in Blk. 7 of Porcions 75, 76 and 77.
Standing 710 ft.

AGUA DULCE—NUECES COUNTY

United Prod. Co.'s No. 1 M. F. Rivers, 330 ft. at R/A N line, 330 ft. R/A E line of Rivers 168.82 acres, Palo Alto Matias Garcia Grant.
T.D. 4,780 ft.; ¼-in. choke; 700 lbs. tubing pressure; 740 lbs. csg. pressure; comp. for gas well making some gasoline.

BARBACOAS—STARR COUNTY

Merren, Johnson & Jeffries' No. 3 S.C.C.C., 330 ft. from S and E lines of Blk. 37, Subd. of Porcion 89.
Standing 2,700 ft.

SAXET—NUECES COUNTY

Southern Mineral Corp.'s No. 4 Ocher, 1290 ft. S line and 417 ft. E line of Ocher 262.52-ac. tract in Sec. 8.
Derrick.

WEST COLE POOL—WEBB COUNTY

American Liberty Oil Co.'s No. 8-A Bruni, 883 ft. NW line, 777 ft. SW line of Sur. 6, M. Arispe grant.
Location.
American Liberty Oil Co.'s No. 12-A Bruni, 260 ft. from SE line, 418 ft. from NE line of Blk. 44, Sur. 8.
Rigging up.
Herman Brown's No. 5 Bruni, 418 ft. from NE line, 260 ft. from SE line of Blk. 1, Sur. 5.
Drlg. 500 ft.
Cole Pet. Co.'s No. 19 Mrs. Benavides, 330 ft. SE line, 1,490 ft. SW line of 300-ac. tract in Callaghan Homestead Tracts.
Location.
Cole Pet. Co.'s No. 19 B. Benavides, 330 ft. NE line and SE line of 300-ac. tract.
Location.
Cole Pet. Co.'s No. 89 Benavides, 1,490 ft. SW line, 330 ft. NE line of Sur. 1.
T.D. 3,407 ft.; I.P. 20 bbls. per hr.; ¼-in. choke.
Foster Barnsley's No. 6 Webster, 150 ft. E line, 510 ft. S line of NE SW Sur. No. 684.
Waiting on swab, 3,053 ft.
O. W. Killam's No. 1 Bruni, 200 ft. N and W lines of Blk. 55.
Drlg. 2,580 ft.
O. W. Killam's No. 30 Bruni Est., 330 ft. SE line, 1,437 ft. SW line of Sur. 6, M. Arispe grant.
T.D. 3,413 ft.; recmtd. csg. at 2,900 ft. to complete as gasser; I.P. 20,000,000 ft. of gas; 600 lbs. rock pressure.
O. W. Killam's No. 31 Bruni, 2,187 ft. SW line, 150 ft. SE line of Sur. 6.
Rigging up.
Magnolia Pet. Co.'s No. 6 Brennen-Benavides, 32 ft. SW line, 330 ft. SE line of Blk. 485, M. E. Hale Subd., Arispe grant.
T.D. 2,800 ft.; I.P. 13 bbls. per hr.; ½-in. choke.
Magnolia Pet. Co.'s No. 7 S. Benavides, 330 ft. from SW and NW lines of Blk. 6, O'Hearn & Seacord Subd. Mesquite grant.
Drlg. 1,119 ft.
Highland Oil Co.'s (Pure) No. 2 Bruni, 330 ft. NW and NE lines of tract in Sur. 7, Location.
Sun Oil Co.'s No. 3 Bruni, 260 ft. SE line, 418 ft. NE line of Sur. 5.
T.D. 3,436 ft.; rigging up to pump.
Sun Oil Co.'s No. 4 Bruni, 418 ft. NE line, 260 ft. SE line of Blk. 19, Sec. 5.
Drlg. 1,905 ft.
Sun Oil Co.'s No. 8 Bruni, 418 ft. from NE line, 260 ft. from SE line of Blk. 5, Sur. 5, Skidding derrick.

BYERSVILLE—WILLIAMSON COUNTY

R. R. Ogden's No. 1 Matteck, 150 ft. N and W lines of 108.5-ac. tract in White Sur.
Location.
Ogden & Reed's No. 1 (2) C. G. Zieschang, 3,500 ft. SE line, 150 ft. SW line of 200-ac. tract in H. White Sur.
Abd. 893 ft.

CHAPMAN—WILLIAMSON COUNTY

G. L. Rowsey's No. 1 Lee Lawrence, 150 ft. from NW line, 900 ft. from SW line of 70.25-ac. tract, W. West Sur.
Rigging up.

BLAS URIBE—ZAPATA COUNTY

O. W. Killam's No. 9 Bruni, 180 ft. SE line, 400 ft. NE line of Blk. 9, Blas Uribe tract, Borrego grant.
Coring 1,750 ft.

JENNINGS—ZAPATA COUNTY

Texas Co.'s No. 32 Whitehead, 17,317 ft. from SW line, 2,391 ft. from SE line of Cerrito Blanco grant.
Coring for sand 1,187 ft.

LOPENO—ZAPATA COUNTY

Norden & Morris' No. 1 Leon Ramirez, 693 ft. SE and NE lines of Blk. 4, Por. 20.
Rigging up.
Norden & Morris' No. 1 Ramirez, 570 ft. SW line and NW line of Blk. 7, Share 20, Por. 19.
T.D. 2,095 ft.; I.P. 10,000,000 ft. of gas; 870 lbs. rock pressure.

MARTINEZ—ZAPATA COUNTY

Sulgrave Oil Co.'s (Sun) No. 1 M. B. Gutierrez, 3,960 ft. W line, 660 ft. S line of Sur. 162.
T.D. 1,687 ft.; I.P. 10,000,000 ft. of gas daily; 512 lbs. rock pressure.
S.R.C. Oil Corp.'s No. 4-H Cuellar, 175 ft. from N and W lines of Blk. 8, Sur. 13.
T.D. 1,544 ft.; I.P. 20,000,000 ft. of gas daily.

MIRANDO VALLEY—ZAPATA COUNTY

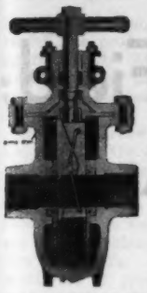
Cliff Durks' No. 1 R. Hinnant, 200 ft. W line, 750 ft. S line of Blk. 16, Sur. 116.
Coring 1,140 ft.

WELL ELEVATIONS

OKLAHOMA
TEXAS
KANSAS
NEW MEXICO

LAUGHLIN-SIMMONS & CO.

GENERAL OFFICES: TULSA, OKLAHOMA



NO LEAKS

with this grease packed W-K-M through - conduit gate valve that seals off tightly and stays sealed. No abrasion because flow doesn't touch gates or seats.

W-K-M CO., Inc.
HOUSTON, TEXAS
Export Office:
74 Trinity Place,
New York

Among Gulf Coast Drilling Contractors

Jeff Hooper hopes to add his name to the list of Gulf Coast drilling contractors who have production of their own when he completes a well for Hooper and Cox in the Coleta Creek Field, Victoria County, rig to drill which is being moved onto location. Location will be on the John Zimmer 125 acres, 600 feet from the Albert Plummer well which was completed recently for a good producer. The Plummer well is estimated to be good for 1,500 bbls. per day on open flow. This well will be Hooper & Cox's second in the field, the first having been completed as a high pressure gas well. Hooper has just completed a good producer in the Sam Fordyce Field, Hidalgo County, for the Windsor Oil Co., bottomed at 2,753 feet, and making 40 bbls. per hour through a quarter-inch choke.

W. V. Bowles, who recently completed a well in the Manvel Field for himself and Victor Barsodi, is moving rig to another location on his own acreage in the field to drill a second well. He also has a rig running for the Texas Co. in the Manvel Field.

The Talbot Drilling Co., which recently leased a rig to the Tother Oil Co., of Houston, and assisted in supervising its operation, has completed a hole at 2,574 feet in Houston County, which is dry and abandoned. Location was 14 miles west of Crockett, and it is rumored several additional wells will be drilled in the area.

Hamill Drilling Co., which is supervising the drilling of Texana Gulf Co.'s No. 1 Thomas Shaw, on the south end of Galveston Island, is drilling below 5,100 feet in shale. Several shows of gas have been reported. It is anticipated this well will be carried to 8,000 feet if production is not encountered. The operators have had it pointed out that, failing to find oil, they can still make an immensely valuable well out of No. 1 Shaw if they complete it in a good fresh water sand. This is because the city of Galveston pipes all drinking water from the town of Alta Loma, some distance in from the Gulf on the mainland. Accessibility of fresh water on the island would eliminate the hazard faced by Galveston during hurricanes, i.e., a shortage of water due to breakage of the lines on the Galveston Causeway.

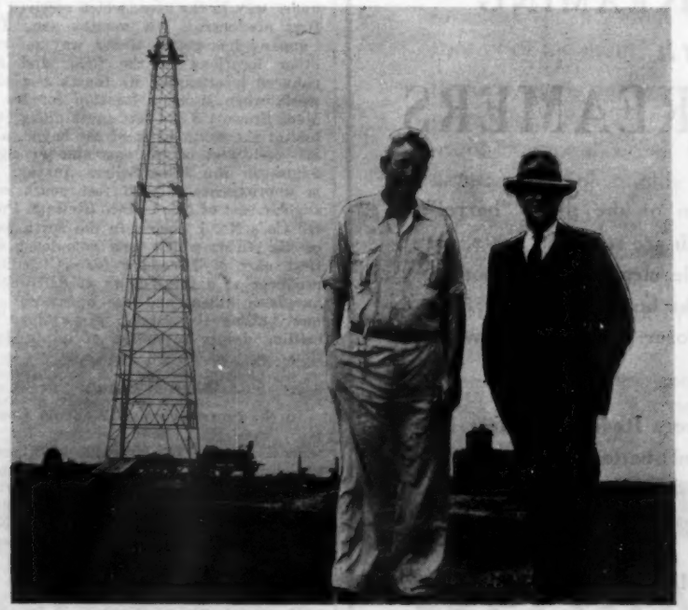
Glenn H. McCarthy, Inc., is drilling at 3,300 feet on a well for McCarthy-Seaport Oil Corp. in the Big Creek Field, Fort Bend County. The company also is drilling on West Production's No. 2 in the Conroe Field, Montgomery County.

Turnbull & Irwin are drilling at 3,280 feet on their well for H. C. Cockburn on the Houston ship channel at Penn City.

W. H. Birdwell, with offices in the Sterling Building, Houston, is moving a heavier rig on C. F. Drake's No. 1 Standard Coal Co. in Southwestern Milam County. A 76-foot derrick originally used over this hole has been torn down, and a 112-foot derrick is being erected. The well will be carried to the Edward's lime.

Smith & McDannald have nine rigs running at this time. For the Superior Oil Producing Co., Bosco, La., the company is drilling at 8,070 feet on No. 3 Comeaux; has cemented oil string at 8,743 feet on No. 1-A Comeaux, and is drilling at 7,600 feet on No. 1 Allemond. For the Avalon Oil Co., at Church Point, La., the company is drilling below 7,000 feet. For Shell Petroleum Corp. at Roanoke, La., the company is drilling below 7,200 feet on No. 1 Mrs. Carter; for the Pure Oil Co. at Louise, Wharton County, the company has rigs running on No. 3 Kountz and No. 2 Stewart. For the Tide Water-Texas Seaboard Oil companies at Cayuga the company has just completed No. 5 Ware, and rig is waiting on new location. For the Tide Water Oil Co. in Rusk County, London area, the company is drilling below 3,600 feet.

Thompson Drilling Co. is moving a rig into the Stratton Ridge Field, Brazoria County, to drill a 5,000-foot test for Thompson Drilling Co. and others.



Two new locations on a 70-acre tract in the Manvel, Brazoria County, oil field testify eloquently to the success of B. E. Norvell No. 1, owned by W. V. (Bill) Bowles, drilling contractor, and V. H. Barsodi, associate, completed recently as one of the best wells in the Manvel field. Friends of Mr. Bowles are heartily congratulating him these days on his first producing well under his own house flag. In Mr. Bowles' absence on a hunting trip, Mr. Barsodi (right in picture) and Mr. E. A. Barker, field superintendent for the new producing company, staked two new locations for immediate drilling. Under the spacing rules in the field, it is probable that the firm will have seven deep producers on the lease before development is completed

Ask the NORVELL-WILDER MAN about BAKER OIL TOOLS

Norvell-Wilder Supply Company

SPECIFY.... McEvoy

AUTOMATIC SAFETY PRESSURE HEAD

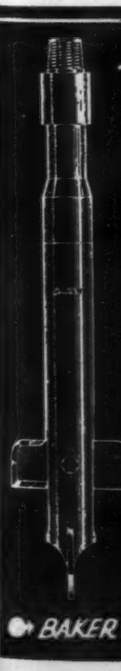
Converts your McEvoy Universal Head into an efficient Blowout Preventer at low cost.

J.H. McEVOY & CO.
TEXAS OIL MILDBY
HOUSTON, TEXAS

OUR SERVICE MAN

is always near your job in Southwest Louisiana, representing every type of tool you need.

LOUISIANA SUPPLY CO.
(Successor to Union Supply Corporation)
SULPHUR, LOUISIANA
"an independent supply company"



...it scrapes all rotary mud from the face of the productive sand. Is complete information in your files on the BAKER WALL SCRAPER?

BAKER OIL TOOLS, INC.

Rx

For BIGGER, better Wells— use a BAKER WALL SCRAPER

HOMCO

IS EXCLUSIVE DISTRIBUTOR OF JEFFREY OILFIELD CHAIN IN THE GULF COAST.

Branches: Palestine, Kilgore, Freer, Sam Fordyce, Texas., Eunice, N.M.

Branches: Lake Charles & Houma, La.
Other Stocks: Cleveland, Louise, Livingston, Refugio

"Cutting and Fishing Tool Service"

PROVEN TOOLS

Every product in our lines has been proven by hard field service in the area we serve.

MURRAY-BROOKS HOWE. CO., LTD.
LAKE CHARLES, LA.
Oil Well Supplies
Branches at:
HOUMA - LEEVILLE - SCOTT

NO BALLING with this BREWSTER DRAG BIT

Funny thing how two men can look alike and be so different. Same thing applies to bits. Old well diggers are astounded at the way this BREWSTER Long-Type Two Blade Bit gets the job done in sticky formations. No balling. No crooked holes. Set with CARBOLITE inserts and faced with crushed CARBOLITE—hardest and toughest metal known to man. Included in BREWSTER Bit Service in East Texas and Gulf Coast fields. Sold everywhere at home and abroad.

The BREWSTER CO., Inc.
Phone 3181 Shreveport, La.
LONGVIEW - HOUSTON - LAKE CHARLES

Apparent West Extension to the Cleveland Field; Renewed Interest Reported in Dickinson Area

By F. L. SINGLETON
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Jan. 28.—While the deep test of Sun Oil Co.'s No. 1 Hugh Long, located on the Nome Prospect, northwestern Jefferson County, was being prepared for a second test, attention on the Gulf Coast turned to the Cleveland Field, Liberty County, where Blackgold Petroleum Corp.'s No. 1 R. D. McDonald has apparently made an important west extension to the field.

On the west side of the Cleveland Field, Liberty County, and located approximately 650 feet west of production in the T. Devers Survey, Black Gold Petroleum Corp.'s No. 1 R. D. McDonalds is preparing to cement 7-inch casing, after a four-minute drill stem test from 5,829-37 feet, tested five joints of oil and one joint of drilling mud, with no salt water, with the pressure building up to 190 pounds. The test was made through a one-quarter inch choke on bottom and a three-eighths inch choke on top. The bottom of the hole is 5,839 feet.

If the test makes a producer, due to it being located on a strip of acreage which adjoins the Gulf Production Co.'s large block it is expected to create considerable drilling activity along the west side of the field. It topped the Uvigernia at 4,584-4,614 feet, Massilina Pratti at 4,645-75 feet, Hockleyensis at 4,735-65 feet and the Operculina at 5,578-87 feet. Compared to Gulf Production Co.'s No. 6-C Kirby, which is producing from a total depth of 5,875 feet, it is bottomed in oil sand 36 feet higher, and gives the field an excellent change of being extended much further to the west.

Sun Oil Co.'s No. 1 Hugh Long located on the Nome Prospect, in the John Blair Survey, northwestern Jefferson County was running tubing preparatory to testing again, after being unable to wash the well in, due to the tubing being plugged with 300 feet of shale. It is bottomed at 9,045 feet and at time has showed considered gas pressure, which makes it one of the most watched wildcat test on the Gulf Coast.

Splendora Area

Another failure was marked up for the Splendora area, eastern Montgomery County, when R. R. Frankel, trustee's No. 1 Cora L. Neff located in the Walker County School Land Survey was abandoned in salt water sand at a total depth of 6,037 feet. On the last core from 6,026 feet to the total depth, the operators recovered 11 feet, the top 3 feet being hard sand, with no show, the next 3 feet was medium gray sand, which carried a show of gas and oil with a salty taste, and the last 5 feet was salt water sand. It is located about three-quarters of a mile southwest of Steen Drilling Co.'s No. 1 Texas Long Leaf Lumber Co., the discovery well which is producing distillate from a depth of 5,841 feet. Based on the Cockfield, No. 1 Neff is reported to have checked from 40 to 50 feet lower than the Steen well. This makes the third dry hole to be drilled in the area.

Brazoria County

Stanolind Oil & Gas Co.'s No. 1 J. W. Surface, located in the northeastern part of Brazoria County, which opened up the Hastings Field a few weeks ago, was recompleted during the week at its new total depth of 6,003 feet, and in 14 hours it made 134 bbls. of 31.50 gravity oil, with tubing pressure 750 pounds and shut in casing pressure 1,000 pounds. Seven-inch casing was cemented at 5,982½ feet and it was completed on a three-sixteenths inch tubing choke. When first completed at its old total depth of 5,990 feet, it made 5 bbls. per hour through the same size choke, and had a tubing pressure of 2,175 pounds and a casing pressure of 2,400 pounds. Gravity of the oil was corrected from 38 to 31.50. The company's other two tests, No. 1 Miller and Steve Paul, located east and south of the discovery well, have gotten under way and will be watched with much interest.

Dickinson Area

Considerable interest is now being centered on the Dickinson area, Galveston County, where Humble Oil & Refining Co. is nearing the top of the Frio in its No. 1 Danielson, located in the John Sellers Survey, approximately one-half mile southeast of No. 1 Maco Stewart. Late in the week, it was coring in shale below 7,350 feet, and based on the Marginulina it is reported to be running 150 feet higher than No. 1 Maco Stewart, which was the first test to be drilled on the prospect, and was later abandoned after it blew out and caught fire. An extensive development program is now under way in the area, which received its first producer a few months ago. The company has gotten under way on two other locations in the field, and announced location for its fourth test this week, when it made location for No. 2 Maco Stewart 3,324 feet south along east line of the south bank of the bayou, and 566 feet west of the east line at right angles in the John Sellers Survey. It is approximately 3,400 feet south and slightly east of No. 1 Maco Stewart. Pure Oil Co.'s No. 1 Shelor, in the north part of the field, which was completed the first part of December for a distillate producer at a total depth of 8,016 feet, has been killed, and the operators are now pulling the tubing, preparatory to drilling deeper in search of oil production.

Wharton County

In the central part of Wharton County, Texas Co. made location for a wildcat test on its large block of acreage, located on the Pierce estate in the I.&G.N. Survey No. 38. In the northern part of county, material is being moved in for Whitehead and Rash's No. 1 C. T. and D. Kountze, which has been a location for some time. Location is in Section 1, S.A.&M.G. Survey.

Harris County

In the Eureka Heights area, Harris County, C. B. Bunte, Inc.'s No. 1 Laura Lackner, the discovery well located in the Henry Reinerman Survey, was successful in getting a three-sixteenths inch bottom hole choke installed, and the well is now back on production, making from 40 to 50 bbls. of distillate per day, with pressure 300 pounds on the tubing and 2,850 pounds on the casing. It was completed two weeks ago at a total depth of 7,686 feet. The second location for this area was made this week when Means and McGeHee, Inc., staked their No. 1 Neuhaus in the William P. Morton Survey, approximately in the center of the east 50 acres of the Neuhaus 154-acre tract and a mile north and west of the discovery well. The same operators have spudded their No. 1 Laura Lackner in the Henry Reinerman, three-quarters of a mile northwest of the discovery well.

Jasper County

In the southern part of Jasper County, Humble Oil & Refining Co. is reported to have assembled a block of approximately 2,000 acres centering in the following surveys. O. Mahaffy, C. C. Frazier, W. C. Frazier, R. M. Dechine and the A. Montgomery Survey.

Fort Bend County

In the eastern part of Fort Bend County, Texas Co. is reported to be assembling a block east and northeast of the town of Beasley, which has been worked with geophysical instruments.

Stanolind Oil & Gas Co.'s No. 1 J. W. Thorp, an interesting wildcat test in the southwestern part of Waller County, was coring ahead in the Yegua below 7,397 feet. Location is in the J. M. Bennett Survey No. 100.

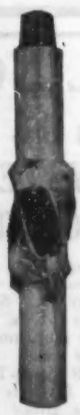
Roanoke Field

In the Roanoke Field, Jefferson Davis Parish, Humble Oil & Refining Co.'s No. 1 Martin Kratzer, located one-half mile southwest of the discovery well, which was completed a few months ago for a gas well at a total depth of 8,814 feet, will be deepened in an attempt to convert it into an oil well. Since its completion, the test has been supplying fuel for drilling operations in the field, and at the present time has a working pressure of 3,500 pounds. No change has been made in the company's No. 3 Devilbiss, which established a new producing depth for the Gulf Coast, when it tested considerable gas at a total depth of 9,425 feet. Late in the week the operators were still pulling screen and liner in an attempt to plug back a few feet. The company's other deep test, No. 1 Jarnigan, is coring below 9,338 feet in shale and lime. Location is in Section 12-9s-4w. The deepest test in the field is Shell Petroleum Corp.'s No. 1 Jarnigan, located east of the discovery in Section 12-9s-4w. Late in the week it was coring in hard sand below 9,831 feet.

Bosco Field

Another 1,000-foot extension looms for the Bosco Field, Acadia and St. Landry Parishes, when Superior Oil Producing Co. cemented 7-inch casing at 8,734 feet in its No. 1 E. Comeaux (Lease "A") in Section 35-8s-3e. It is bottomed in oil sand at 8,743 feet. The same company's No. 3 Comeaux, within the proven limits of the field, is waiting on cement to set at a total depth of 8,070 feet. Seven-inch casing was cemented at 8,050 feet. Location is in Section 34-8s-3e. Superior Oil Producing Co.'s No. 1 Coralie Domingua is a new location, and the operators are rigged up and ready to spud. It is located approximately 1,000 feet south of production in Section 34-8s-3e. The Standard Oil of Kansas has re-entered into activities in the field by rigging up to deepen its No. 1 Mouton, which has been shut down at 1,400 feet for several months. It is located east and slightly north of Superior Oil Producing Co.'s

STRAIGHTER HOLE
FASTER REAMING
with
SIEVERS REAMERS



The shearing action of the three "barrel" shaped cutters, which are set at an angle, cut the walls of the hole cleanly and smoothly. This action keeps the hole free of any tight spots and allows closer tolerances between the hole and casing.

The use of the Sievers Reamer, assures increased drilling speed; better core recovery; decreased wear on drilling equipment; and lowered operating costs with greater safety.

Exclusive Gulf Coast and Mid-Continent Distributor.

WILSON SUPPLY CO.
OIL AND GAS WELL SUPPLIES

1412 Maury St.,
Houston, Texas

BRANCHES: Barbers Hill, Kilgore, Greta, Gladewater and Tomball, Texas; Lake Charles and Shreveport, Louisiana.

No. 1 Malancon, a producer that extended the producing limits of the field approximately 2,000 feet south a few weeks ago, and practically proves up the acreage on which No. 1 Mouton is located.

On the Darrow Dome, Ascension Parish, Humble Oil & Refining Co. is having some trouble in getting its No. 2 S. Gumbel to flow. It is bottomed at 5,716 feet and in 21 hours it flowed 281 bbls., and then went dead. The operators are now swabbing. Location is in Section 33-10s-2e, approximately 1 mile southwest of production.

In northern Calcasieu Parish, Louisiana, Fred Oil Co. made location for its second wildcat test. It is No. 2 Faizst, located 262 feet east and 83 feet south of the NW cor SE Section 26-8s-10w, and 900 feet southeast of its No. 1 Faizst, which was abandoned at 2,875 feet. Rapides Parish, received its third location for a wildcat test, when Williams-Terrell and Day staked location for No. 1 Armstrong and Murphy, located 286 feet north and 300 feet west of the SE cor. of Section 24-5n-1w.

Cameron Parish

On the St. John prospect, southern Cameron Parish, Texas Co. made application for permits to drill two more tests on their block of approximately 15,000 acres, which is now being tested by the company's No. 1 Jessen, located in Section 24-14s-9s. No. 1 State will be drilled 600 feet northeast of No. 1 Jessen and No. 2 State will be drilled 600 feet south of the well.

Quite an extensive leasing and royalty campaign is taking place in three separate areas of Calcasieu Parish. Southeast of Lake Charles, on what is known as the Holmwood area, Humble Oil & Refining Co. is reported to have acquired from the Sweetlake Land & Oil Co. a lease on 1,602 acres, paying a reported price of $3 per acre. The land under lease is in Sections 27, 28, 29 and 34, in Township 10, Range 6w. The company is also reported to have purchased 160 acres from the Farmers Land & Canal Co., located in Section 15-10s-7w. In the Hayes area, extreme eastern part of the parish, near the line of Jefferson Davis Parish, Texas Co., Magnolia Petroleum Co., Humble Oil & Refining Co. and several independent operators are acquiring acreage in the area, which has been worked with geophysical instruments. The Gulf Production Co. drilled in the area two years ago, when it abandoned its No. 1 Sweet Lake Land Oil Co. at a total depth of 8,900 feet. The other active leasing area is the Starks area, where Gulf Refining Co. has just spudded in on its No. 1 W. H. Starks and others, located 5 miles west of the Vinton Field in Section 26-11s-12w. Humble Oil & Refining Co. is reported to have paid $5 per acre for 160 acres east of Starks and located in Section 4-9s-12w. In the same area, Texas Co. is reported to have purchased 56 acres last week located in Section 34-8s-13w. Three miles northwest of Starks, Federal Petroleum Co. was reported to have purchased 100 acres, which is in the vicinity of the location of McCaleb's No. 1 Henry Gray estate, which is located on a 1,100-acre block. Texas Co. is also reported to have purchased protection south of the block.

Wildcat Operations on Gulf Coast

Week Ending January 26

RACCOON BEND—AUSTIN COUNTY

Humble O. & R. Co.'s No. 4-X Jackson, 315 ft. from SE line, 312 ft. from NE line, Wm. C. White Sur.
16-in. csg. 124 ft.; drlg. 132 ft.

Humble O. & R. Co.'s No. 5-X McCasland, 419 ft. SE along NE line, 377 ft. at R.A. from NE line, Wm. C. White Sur.
10¾-in. csg. 1,153 ft.; drlg. shale 3,625 ft.

Humble O. & R. Co.'s No. 8-X Sanders, S.D. 3,220 ft.

Humble's No. 6-X Wilson, 315 ft. at R/A from NW line, 313 ft. at R/A from NE line.
7-in. csg. 4,060 ft.; T.D. 4,144 ft.; I.P. 61 bbls. per hr.; through ½-in. choke; tubing pressure 440 lbs.; csg. pressure 560 lbs.

Humble O. & R. Co.'s No. 9 Sherrod.
7-in. csg. 4,059 ft.; R.U. to pump.

Humble O. & R. Co.'s No. 11-X Woodley.
Drlg. shale 6,871 ft.

DANBURY—BRAZORIA COUNTY

Shell Pet. Corp.'s No. 7 Blakely-Winston, 63 deg. 11 min. E, 5,540 ft. N, 26 deg 49 min. W, 200 ft. from SW cor. of Blakely-Winston 560-ac. tract, H.T.&B. Sur.
T.D. 6,060 ft.; made D.S. test with seat at 6,060 ft.; pressure built up to 500 lbs. in 6 min.

Shell Pet. Corp.'s No. 3 Haury, 800 ft. SE of No. 2 in line with No. 2 and No. 1 Blakely-Winston, H.&T.B. Sur. No. 13.
T.D. 7,220 ft.; testing.

DAMON MOUND—BRAZORIA COUNTY

Gulf Stream, Inc.'s No. 1 Cave Heirs, 160 ft. from N line and 60 ft. from E line of Lot C, Blk. 50, A. Darst Sur.
Drlg. lime 1,660 ft.

Esco's No. 1-D Wisdom, 25 ft. from S and W lines of Blk. D, Lot 5, A. Darst Sur.
S.D. 1,563 ft.

HASTINGS—BRAZORIA COUNTY

Stanolind O. & G. Co.'s No. 1 W. J. Miller, 466 ft. out of SW cor. of the Miller 3,939-ac. tract, in A.C.H.&B. Sur. No. 2, 3,000 ft. E of discovery well.
Drlg. shale 1,234 ft.

Stanolind O. & G. Co.'s No. 1 Steve Paul, 476 ft. from the E line and 466 ft. from N line of 160-ac. tract, A.C.H.&B. Sur. No. 2, 2,100 ft. S of discovery well.
Spudded 243 ft.

MANVEL—BRAZORIA COUNTY

Allison & Richey's No. 2 Gulf Coast Home Co., 347 ft. S, 441 ft. W from NE cor. of Lot 38, H.T.&B. Sur. No. 2-B.
Location.

Cron & Gracey's No. 1 Gubert, Charles O'Donnell Sur. No. 74.
Drlg. shale 4,095 ft.

J. W. Sorrells' No. 1 Swift, Blk. 21, Abst. 318, H. N. Little Sur.
Derrick.

Texas Co.'s No. 1 C. P. Dawson, 2,475 ft. S, 441.9 ft. W of NE cor. of Lot 59, H.T.&B. Sur. No. 23.
Derrick.

Texas Co.'s No. 3 A.R.G.G.H. Co., in C of Lot 37, H.&T.C. Sur. No. 23.
Location.

Texas Co.'s No. 10-A Belcher, N 42 deg. E 330 ft. and N 48 deg. W 330 ft. from S cor. of Belcher "A" lease, H. N. Little Sur.
10-in. csg. 1,134 ft.; drlg. shale 1,137 ft.

Texas Co.'s No. 17 Houston Oil Fields Assn., 244 ft. S, 244 ft. W, from NE cor. of Lot 1, A.C.H.&B. Sur. No. 91.
Location.

Texas Co.'s No. 16 Houston Oil Fields Assn., 247 ft. S, 440 ft. E from NW cor. of Lot 19, A.C.H.&B. Sur., No. 91.
Location.

Texas Co.'s No. 1 J. L. Lemmer, 330 ft. S 48 deg. E and 330 ft. N, 42 deg. E of W cor. of lease, Thomas Sproggins Sur., Abst. A-366.
Rig up.

Texas Co.'s No. 1 Joe Grace, 200 ft. S, 200 ft. W of NE cor. of lease, Lot 7, Charles O'Donnell Sur. No. 74.
7-in. csg. 5,133 ft.; T.D. 5,154 ft.

Texas Co.'s No. 15 Houston Oil Field Association, 441.9 ft. W and 247.5 ft. S of NW cor. of Lot 7, A.C.H.&B. Sur.
7-in. csg. 3,598 ft.; T.D. 4,050 ft.; I.P. 9½ bbls. first hr.; tubing pressure 440 lbs.

Texas Co.'s No. 1 C. P. Dawson, 247 ft. S, 441 ft. W of NE cor. Lot 59, H.T.&B. Sur. No. 23.
Location.

Texas Co.'s No. 2 Dawson, 247 ft. S, 241 ft. W of NE cor. of Lot 58, H.T.&B. Sur. No. 23.
Location.

Texas Co.'s No. 1 L. C. Dawson, 247 ft. S, 441 ft. W of NE cor. of Lot 49, H.T.&B. Sur. No. 23.
Location.

Texas Co.'s No. 2 Dawson, 247 ft. S, 441 ft. W of NE cor. Lot 48, H.T.&B. Sur. No. 23.
Location.

Trumba Oil Co.'s (J. M. Campbell) No. 1 H. McCauley, 150 ft. each way out of NE cor. of W 5 acres of Lot No. 2, A.C. H.&B. Sur. No. 91.
Location.

WEST COLUMBIA—BRAZORIA COUNTY

Sterling O. & R. Co.'s No. 4 Hogg, 200 ft. S of No. 1, 50 ft. from W line of lease, Martin Verner Sur.
Drlg. shale and lime 4,215 ft.

Texas Co.'s No. 84 Hogg, 2,483 ft. N, 50 ft. W from SE cor. of lease, M. Varner Sur.
Temporarily S.D. 5,342 ft.

BARBERS HILL—CHAMBERS COUNTY

Moody Corp.'s No. 1-C E. W. Barber, 302 ft. from N line and 312 ft. from E line of "B" lease, H. Griffith Sur.
Cleaning hole 3,575 ft.

Humble O. & R. Co.'s No. 8-B Kirby, 200 ft. N of No. 2, 100 ft. W of E line, Henry Griffith League.
20-in. csg. 75 ft.; drlg. 691 ft.

Sun Oil Co.'s No. 15 Wilburn, 405 ft. from E and 50 ft. from W line of lease, Wm. Hodges Sur.
Coring oil sand 5,130 ft.

Sun Oil Co.'s No. 10 Chambers, 50 ft. from N and W lines of lease.
T.D. 3,910 ft.; I.P. 10 bbls. through ¾-in. choke.

Sun Oil Co.'s No. 17 Wilburn fee, 188 ft. E of W line and 40 ft. S of N line and 120 ft. W of No. 16.
Rock 1,033 ft.

Texas Gulf Prod. Co.'s No. 12-A Kirby, 612 ft. N of S line, 35 ft. W of E line, W of

(Continued on Page 154)

JUST COMMON SENSE

IT'S CUSTOM-MADE STEEL THAT SPELLS THE DIFFERENCE!

Why is Roebling Welding Wire absolutely uniform in quality and free of non-metallic impurities? The answer is: because it is drawn from steel produced in Roebling's own mills *specifically* for welding purposes. This steel is made of pure melting stock... and is refined in Roebling's special open-hearth furnaces which permit small heats and very close control of the melt.

It costs more to produce welding steel by this painstaking Roebling "custom" method than on the usual "tonnage" basis. But a welding wire of exceptionally high quality is the result.

Try Roebling Welding Wire. Send for data and samples. It is made in both gas and electric types.

JOHN A. ROEBLING'S SONS COMPANY
TRENTON, N. J. *Branches in principal cities*

Distributors for Oil Fields

FRICK-REID SUPPLY CORP. Pittsburgh, Tulsa, Houston

ROEBLING WELDING WIRE

Custom Made

New Test Starting on Chestnut Ridge Anticline in Fayette County, Western Pennsylvania

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Jan. 28.—It has long been felt that, in spite of the tremendous upheaval, there are possibilities that the Chestnut Ridge anticline may have some gas reservoirs. Some years ago the Peoples Natural Gas Co. tested this structure in Westmoreland County, Pennsylvania with No. 1 on the Booth and Flynn tract to a depth of 6,892 feet and found about 500,000 feet of gas, initial, in the Onondaga. A second test on that property was drilled to a depth of 7,756 feet and, while the Oriskany appeared to be absent, there was about 300,000 feet a day in the Salina. The gas had a peculiar sulphurous odor.

Since then some shallower tests have been made along this structure without striking commercial production. A new test is starting on this anticline. William Snee and others have made a location on the Summit Hotel property about 200 yards down the west flank of the summit in South Union Township, Fayette County. The location is near No. 1 hole on the golf course in the rough. On the structure the test will be well north of the junction of the Preston and Chestnut Ridge anticlines and north of the nonconformity at that junction.

There were 12 wells completed in the lower eastern fields during the week, many being retarded by weather conditions. Three of these were gas wells and nine were producers with an initial production of 93 bbls. There were also four dry holes. The majority of the completions were in Southeast Ohio.

SOUTHEAST OHIO

In Coshocton County, Preston Oil Co. completed No. 3 on the Cary D. Harris farm in Section 17, Perry Township, in the Clinton sand at a depth of 3,143 feet. It will probably make a 20-bbl. pumper after shot.

In Jefferson County, NE Section 29, Saline Township, C. S. Kelly and others completed No. 8 on the Ella E. Baxter farm in the Berea sand at a depth of 980 feet. It produced 1 bbl. the first day natural, which increased to 3 bbls. a day after shot. In Wells Township, and SW Section 30, King and others drilled a test on the A. Graham farm through the Berea to a total depth of 1,630 feet. It was dry in all sands.

In Medina County Oko Oil & Gas Co. completed No. 33 on the T. W. Brinker farm, Tract 14, Lot 6, Chatham Township, in the Berea grit at 340 feet. It produced 5 bbls. the first day after shot. In Section 15, Litchfield Township, L. F. McGrath drilled a test on his own property, mapped as the C. M. Spitzer farm, through the Berea grit to a depth of 467 feet. It was dry.

In Muskingum County, NE Section 6, Jackson Township, Pure Oil Co. completed No. 3 on the E. J. Hunkins farm in the Clinton sand at a depth of 3,273 feet. It produced 8 bbls. the first day, natural, which increased to 30 bbls. a day after shot.

In Noble County, Thurman L. and C. W. Rich completed a second test on the Mary Murphy farm in NE Section 18, Seneca Township. It was drilled in the Berea grit at a depth of 1,348 feet and produced 1½ bbls. the first day after shot. It is 695 feet almost due north of the test on this farm.

In Perry County, Ohio Fuel Gas Co. drilled deeper No. 2 on the Blanche Shough farm, SE Section 8, Reading Township, and it is a gas well in the Clinton sand at a depth of 2,970 feet. It gauges about 250,000 feet a day and formerly was a Berea sand well completed July, 1934, in that formation.

SOUTHWEST PENNSYLVANIA

There were two producers completed in Southwest Pennsylvania during the week. In South Franklin Township, Washington County, Union Gasoline & Oil Corp. drilled deeper No. 1 on the J. S. Hazlett farm from 2,777 feet to a total depth of 3,026 feet. The top of the Fifth sand was at 3,006 feet with oil showing at 3,007-11 feet. It is making about 5 bbls. a day.

In Amwell Township, Washington County, F. K. Fawcett and others completed a test on the J. L. and Anne Phelan farm in the Fifth sand at a total depth of 3,021 feet. The Fourth sand was void. The top of the Fifth sand was at 3,006 feet with about 168,000 feet of gas a day showing at 3,007 feet. At 3,019 feet oil was struck which filled up the casing 800 feet. In has the appearance of a 15-bbl. producer.

In this township Carnegie Natural Gas Co. has reached 1,588 feet on the R. M. Carrons farm. On the M. Manon farm this company had been shut down in No. 2 at a depth of 1,725 feet but finished drilling out the cement and fished out the bottom joint of casing and resumed drilling.

In the East Findley Township, Washington County, the Natural Gas Co. of West Virginia is drilling at 2,843 feet on the G. W. Tilton farm. The top of the Thirty-foot sand was at 2,803 feet and extended to 2,824 feet with about 89,000 feet of gas a day showing at 2,805-07 feet. In this township, this company has reached 1,845 feet in a test on the T. F. Ealy farm.

In Morris Township, Washington County, James McCracken & Co. are drilling at 2,395 feet in deepening No. 1 on the H. B. Saunders farm. In South Franklin Township, Carnegie Natural Gas Co. is plugging No. 1 on the S. A. Dague farm.

In Greene County, Johnson & Eddy are down 1,175 feet in the second test on the W. L. B. Roberts farm in Gilmore Township. In Greene Township, John Lantz has reached 2,940 feet on his own property. The top of the Bayard sand was at 2,930 feet with a showing of gas at 2,932 feet. In Richhill Township, Lewis & Co. are reaming the 16-inch at 257 feet on the S. C. Chess farm.

WEST VIRGINIA

There were two producers completed in West Virginia during the week. In Hancock County R. J. Braden Co. completed No. 19 on the Hewitt Brothers lease in Grant district in the Cow Run, showing for 3 bbls. a day.

In Pleasants County, Ritchieville Oil & Gas Co. completed a test on the Pierce F. Matheney farm on Limestone Run of Cow Creek in Jefferson district. It was drilled in the Berea grit at a depth of 1,902 feet and is making 10 bbls. a day, natural, and will be shot.

In Roane County, Virginia Gasoline & Oil Co. treated No. 7 on the Ben Summerfield farm in Smithfield district with 16½ bbls. of acid and increased production from 1½ bbls. a day to 8 bbls. a day.

Oriskany Tests

In Elk district, Kanawha County, where several wells drilling to Oriskany sand in search of additional production from that formation, Grosscup and others have made another location, on the J. M. Ramsey heirs farm approximately 4,000 feet north of their No. 1 on the W. T. Copen farm now drilling. It is on the Coopers Creek and Sandy Creek divide slightly on the Sandy Creek side of the hill. Their other location is on the Margaret E. Jarrett heirs farm about 2,500 feet northeast of the well now drilling on the M. A. McGraw farm, mapped as the F. W. Shinn farm.

On the W. T. Copen heirs farm, S. B. Avis, trustee for Grosscup and others have reached 4,830 feet. It is believed the top of the Oriskany may be at about 5,041 feet. On the island at the mouth of Coopers Creek, the Matheney, Wertz asd others lease, V. C. Smith and others are down 3,375 feet. Clyde Oil & Gas Co. has reached 2,750 feet on the F. W. Shinn farm. Yoak Brothers Oil & Gas Co. is drilling at 970 feet. Benedum & Trees have reached a depth of 740 feet on the Mary C. Wingfield farm.

In Malden district, Kanawha County, Godfrey L. Cabot, Inc., has reached 4,484 feet in deepening No. 8 on the Campbell's Creek Coal Co. lease. This is about 6 miles south of Elk district.

Gas Wells

In Cabell County, Brown Gas Co. completed a test on the Floyd L. Bias farm in McComas district in the Injun sand and has a gas well gauging about 920,000 feet a day.

In Calhoun County, Everett Starcher and others drilled a test on the Lubana J. Jarvis farm in Washington district through the Salt sand to 1,392 feet. It was dry and is being abandoned. In this district, Jarvis Gas Co. drilled a test on the C. L. and G. W. Jarvis farm through the Salt sand to 1,300 feet. It was also dry.

In Wayne County, C. L. Dixon drilled deeper No. 1 on the Charles Jones farm in Stonewall district through the shale to 4,665 feet. It is a gas well gauging about 150,000 feet a day.

Drilling in West Virginia

In Boone County, only three wells are drilling. One is in Washington district, the test of the Boone County Coal Co. on its own tract, and two in Sherman district both by Pure Oil Co. Its No. 72 on the Federal Coal Co. tract is down 2,528 feet and No. 3 on the A. M. Prichard lease has reached 1,157 feet.

In Cabell County, Boyles and Gardner have made a location on the Edward Owens farm in McComas district. R. H. Adkins and others are down 2,900 feet on the F. F. Starcher farm.

In Calhoun County, F. F. McIntosh has completed a rig on the W. E. Stump farm in Lee district. M. F. Crawley has reached 2,085 feet on the Lester and Riggs lease. In Sherman district, Starcher and Richards are on top of the Injun sand on the Graybill heirs farm. A. Rothwell is drilling at 900 feet on the J. H. Sturm farm, a test, and Godfrey L. Cabot, Inc., at 1,856 feet on the Henry Kight farm, also a test. In Center district, Howard Brothers are in the sand on the L. F. Norman farm.

In Doddridge County, Frank Finley is drilling No. 2 on the Nathan Cain farm in Central district. There was a show

(Continued on Page 158)

Seventeen Completions in Central Ohio; Three Important Tests in Tennessee

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Jan. 28.—The Lima Field shows a slight improvement, there being three completions. In Seneca County, Cessna-Feasel Oil Co.'s No. 2 Charles J. Hoffer farm, Section 9, Liberty Township, is a gas well at a depth of 498 feet. R. C. Jones is drilling on the Henry King farm, Section 31, same township, and R. E. Greene is drilling No. 3 on the T. C. and B. G. Schaull farm, Section 30, same township. Tiffin Independent Gas Co. is drilling No. 2 A. Shumaker farm, Section 5, Hopewell Township. J. L. Barrett is drilling No. 1 T. N. Einsel farm, Section 1, same township.

In Logan County, Logan Coal Products Co. brought in a fair gas well in No. 1 Phil Crow farm, in Washington Township, at 1,328 feet, which being a test, will no doubt bring about further test work in this county.

In Van Wert County, Duncan & Smith abandoned No. 1 on the William McCracken farm, Section 29, Jackson Township. Elmer Caudill and others are drilling No. 4 Mary B. Sheets farm, Section 30, same township, and Hystanton Oil & Gas Co. is drilling No. 3 J. A. Reed farm, Section 30, same township.

In Hardin County, Kenton Oil & Gas Co. has rig for No. 2 on the William McMahon farm, Section 17, Pleasants Township.

In Henry County, Stoddard & Darke are drilling No. 1 C. S. Shelly farm, Section 7, Marion Township, and P. D. Snoenby is drilling on the Curry heirs farm, Section 6, same township.

In Wood County, Sherman E. Aurand abandoned Nos. 1, 2, 3, 4, 5, 6, 7, and 8, on the J. M. Adams 80 acres, in Section 28, Montgomery Township.

In Sandusky County, Klotz Oil Co. abandoned No. 6 Mary J. Walby, Section 5, Jackson Township. Montgomery and others are drilling No. 2 N. T. Hetrick farm, Section 17, Rice Township. In Woodville Township, C. W. Beard abandoned Nos. 3, 5, 6, 7, 8, 9, 10, 11, and 12 Henry Minke, Section 12, and Perpetual Rights Corp. is drilling No. 2 on the Peter Bowe farm, NE Section 18, Scott Township, same county.

CENTRAL OHIO

Seventeen completions were reported from the Central Ohio Field, of which three were oil wells, seven were gas wells and seven were dry.

In Medina County, Edson & Son's No. 40, on the E. G. Miller farm, Lot 12, Chatham Township, produced an initial of 6 bbls. from the Berea sand at from 411-27 feet. Same company's Nos. 41 and 42, on the E. G. Miller farm, Lot 12, same township, were both dry. Same company's No. 41, on the Marcus Frank farm, same township, was dry. In Brunswick Township, Kemrow Co.'s No. 3 on the Brach and Hellman farm, Lot 24, produced 2 bbls. initial.

In Holmes County, Ohio Fuel Gas Co.

(Continued on Page 158)

Third Pool Discovery in Month in Barton County, Kansas; Four Big Wells in Haury-Burrton Field

By JAMES McINTYRE

The Haury-Burrton Pool in Reno County, Kansas, produced over 23,000 bbls. per day in the week ending Saturday, January 26, but diminished production in the State in other fields kept production down to 140,975 bbls. as against 143,200 bbls. per day in the previous week.

Estimated Production

Estimated daily average production of Kansas for the week ended January 26 and for the preceding week follows:

	Barrels	
	Jan. 26	Jan. 19
Hollow	6,550	6,600
Ritz-Canton	9,625	9,725
Voshell	6,375	5,575
Johnson	2,392	2,384
Nickell	5,925	6,050
Sedgwick Coun y	9,325	8,950
Ellsworth County	3,537	3,467
Barton County	1,692	1,631
Rice County	19,002	18,968
Reno County	23,648	19,492
Ellis County	593	530
Kingman County	1,054	1,184
Stafford County	1,946	1,947
Russell County	7,000	7,500
Greenwood County	11,000	11,500
Butler County	18,900	19,000
Other pools	12,417	18,396
Total Kansas	140,975	143,200

Barton County continues to hold the limelight for discovery wells for the past two weeks and this time comes word from the western part of the county that two Tulsa operators, W. H. Treleaven and W. H. Brimm, have "hit" in their No. 1 Bass, in the SW cor. Section 30-18-15w. Reagan sand (thought at first to be the Lamotte sand), penetrated from 3,585 to 3,606 feet, with first oil at 3,603 feet, was flowing by heads over the crown block every 15 to 30 minutes of 39 gravity oil at 55° temperature. Adequate facilities for taking an actual gauge of its capacity were lacking and setting of tankage was under way. This new wildcat produced was variously estimated to be good for 500 to 1,000 bbls. daily.

Stanolind Oil & Gas Co.'s No. 5 Hauser, located in the C SW NE Section 16-20-11w, in the Ellinwood Pool of Barton County, had a potential gauge of 436 bbls. on the pump from 5 feet of Siliceous lime topped at 3,288 feet.

Downing and others were moving in materials for a test in the SE SW SE Section 14-19-11w, in Barton County. This test will be known as the No. 1 Eberhart.

Cowley County

Cowley County had one producer this week in Murphy and others' No. 1 Cadwell, located in the NW NE NE Section 7-35-3. After shooting 12 quarts of nitro the well pumped 78 bbls. of 42.6 gravity oil in sand logged at 3,440-3,504 feet, total depth.

Ellsworth County

About midway between the town of Ellsworth and the Folfs Pool in Ellsworth County, Pryor-Lockhart and others had staked a location for a rank wildcat well in the SE cor. Section 19-16-8w.

Smith, Ash and Texas Co. had a rig up for their No. 2 Stratman, located in the SW NE NE Section 12-17-10w, in the Stratman Pool in Ellsworth County.

The Stoltenberg Pool in Ellsworth County had one new operation this week in Stanolind Oil & Gas Co. and Gypsy Oil Co.'s No. 3 Frevert, located CEL NE Section 21-16-10w, building rig.

Harvey County

Shell Petroleum Corp. was deepening its No. 3 Schmidt, 1,320 feet north and 330 feet east of SW cor. of Section 17-22-3w, in the Hollow Pool in Harvey County. Misener sand was topped at 3,443 feet and operations were temporarily suspended for cement to set after running 7-inch casing to 3,444 feet. Old total depth was 3,208 feet.

McPherson County

The northwest edge of the Ritz Pool in McPherson County was quite well defined in the completion of Alley & Woodward's No. 1 Jones in the NE SE NE Section 9-19-2w. The Kansas City lime from 2,332 feet to 2,375 feet, total depth, yielded 20 bbls. of oil in 12 hours. An attempt to increase production by acid treatment resulted in water encroachment and it was completed for 19 bbls. of oil and 15 bbls. of water in 24 hours on the pump.

After finding a hole full of water in the Siliceous lime 3,513-3,515 feet, total depth, Texas Co.'s No. 1 Carlson, located in the NE NW Section 24-19-3w, in McPherson County, swabbed 55 bbls. of oil and water from 13 feet of Chat topped at 2,967 feet. After acidizing with 1,000 gallons the well pumped and flowed 270 bbls. of oil and 100 bbls. of water in 24 hours. This well is in the southwest corner of the McPherson Pool, about 2 miles northeast of the town of McPherson.

After deepening their No. 1 Bridgens, located in the SW SE Section 35-19-3w in the Johnson Pool in McPherson County, from 3,045 to 3,580½ feet in the Siliceous lime, Barnsdall Oil Co. and Indian Territory Illuminating Oil Co. had a hole full of water at the latter depth and abandoned the well.

In the McPherson Pool, Roth & Faurot Co. were digging cellar for its No. 4 Almen, in the SW NE SE Section 13-19-3w, of McPherson County.

Reno County

Sinclair Prairie Oil & Gas Co.'s No. 1 Carmichael, 660 feet south and 758 feet west of the NE cor. NW Section 15-24-4w in the Stone Pool in Reno County, encountered the Chat at 3,313 to 3,405 feet and plugged back to 3,385 feet, producing an estimated 35 bbls. of oil and 225 bbls. of water. The well was then treated with 1,000 gallons of acid and pumped 25 bbls. of oil and 200 bbls. of water in 24 hours.

Four more Hunton lime wells were brought in during the past week in the Burrton-Haury Pool for a combined initial capacity of 11,144 bbls. The largest well was Derby Oil Co.'s No. 3 Ackley, in the SW SE Section 14-23-4w, pumping and flowing 3,449 bbls. of oil on a potential gauge after acidizing the Hunton lime 3,584 to 3,596 feet, total depth.

Olson Drilling Co. and Shell Petroleum Corp.'s No. 4 Downie, located in the NW NE of Section 14-23-4w, also proved to be one of the week's largest producers, flowing 3,317 bbls. of oil in 24 hours from Hunton lime 3,604 to 3,613 feet, total depth.

Skelly Oil Co.'s No. 4 Sabin, SE SW of Section 11-23-4w, acidized the Hunton lime 3,613 to 3,622 feet, total depth, with 2,000 gallons and pumped and flowed 1,919 bbls.

Amerada Petroleum Corp.'s No. 2 Wilson, NE SW SW Section 23-23-4w, Burrton-Haury Pool, flowed and pumped 2,459 bbls. of oil from the Hunton topped at 3,596 feet, total depth 3,606 feet.

Olson Drilling Co. and Shell Petroleum Corp. completed their No. 7 Goering "B," located in the C SE NW Section 35-23-4w. This was the only Chat completion for the Burrton-Haury Pool for the week, the well flowing 335 bbls. of oil and 1,000,000 feet of gas in 24 hours from Chat at 3,237 to 3,371 feet, total depth.

In the SW NW of Section 18-22-5w, Lario Oil & Gas Co. and Reserve Petroleum Co. abandoned their wildcat test, No. 1 Shepherd, at total depth 4,150 feet. This well was located about three and one-half miles north of Hutchinson, Kans. The following formations were found: Top Kansas City lime, 2,970 feet; Mississippi lime, 3,565-3,783 feet; top Viola lime, 4,040 feet; Siliceous lime, 4,143-4,150 feet, with the hole full of water.

There were 11 new operations in the Burrton-Haury Pool, during the past week: Barnsdall Oil Co.'s No. 7 Sabin "B," NE SE NE Section 11-23-4w, cellar; Skelly Oil Co.'s No. 5 Sabin, SW NE SW Section 11-23-4w, cellar; Tide Water Oil Co.'s No. 2 Montford, located in the SW cor. of Section 12-23-4w, location; Wilcox Oil & Gas Co.'s No. 2 Neufeldt, NW SW NW of Section 12-23-4w, cellar; Derby Oil Co.'s No. 4 Ackley, located approximately in the SE SW SE of Section 14-23-4w, cellar; National Union Oil Co.'s No. 4 Ackley, SW SE SE Section 14-23-4w, location; Olson Drilling Co. and Shell Petroleum Corp.'s No. 5 Duckworth, NE NW NE Section 23-23-4w, location; the same companies' No. 6, located in the NW NE NE of Section 23-23-4w, location; and three operations by Tide Water Oil Co. on the Grandon lease, No. 1, SE SW Section 34-23-4w, moving in material; No. 2, NE SE SW Section 34-23-4w, location; No. 3, C SE SW, location.

Rice County

The Grove Pool in Rice County had no completions for the past week, but had six new operations started: Vickers Petroleum Co. and others' No. 2 Specht, NE SE NE Section 20-20-10w, moving in material; Sinclair Prairie Oil & Gas Co.'s No. 5 Volkland, located approximately in the SW SE Section 20-19-9w, cellar; Empire Oil & Refining Co.'s No. 1 Tournear, NW SE NE Section 29-19-9w, material; Keith and others' No. 2 Grove, in the NE SE NW of Section 29-19-9w, had 18-inch casing set at 136 feet and were drilling at 320 feet; Texas Co.'s No. 5 Grove, NW NE Section 29-19-9w, were rigging up; and the same company's No. 6 Grove, approximately SE NW NE Section 29-19-9w, also rigging up.

Rush County

Boyle & Grossman's No. 1 Wilhelm, located in the SW SE of Section 8-19-16w, Rush County, was abandoned at 3,946 feet, total depth, after testing the following horizons: Top Kansas City lime, 3,470 feet; 3,575-80 feet, hole full of water; top Siliceous lime 3,820 feet; 3,940-3,946 feet, hole full of water.

Russell County

Two new operations were started the past week in the Neidenthal Pool in Russell County. Lario Oil & Gas Co.'s No. 2 Neidenthal, SE NE NE Section Texas Co.'s No. 2 Boxberger, SW NW 23-14-15w, and Lario Oil & Gas Co. and NW Section 24-14-15w, both had cellars.

Tom Palmer started two new operations in the Russell Pool, Russell County. They were the No. 5 Killian, approximately SE SW NW Section 27-13-14w, and No. 6 Killian, approximately SW SE NW Section 27-13-14w, both having material on ground.

Sedgwick County

Dicky Oil Co.'s No. 1 Brown, located in NW NE of Section 20-28-1, Sedgwick County, pumped 137 bbls. of oil from the Chat at 3,069 to 3,119 feet, total depth, after acidizing with 1,000 gallons. This producer is located in the heart of the Robbins Pool.

Wildcat Operations in Kansas

Week Ending January 26

(Descriptions are East unless marked otherwise)

BARBER COUNTY

Sam Jarvis et al's No. 1 Morrisse, C SE NE Sec. 23-30-10w.
Rig.

Southern Drlg. Co. et al's No. 1 Davis, 810 ft. from W and 330 ft. from S lines of NE Sec 13-34-15w.
S.D. 2,865 ft.

BARTON COUNTY

D. I. Hall et al's No. 1 Arnold, SE SE SW Sec. 19-18-15w.
Rig.

C. L. Price et al's No. 1 Ehrlich, NW SE Sec. 10-16-13w.
T.D. 360 ft.; fishing.

Suppes & Witt's No. 1 Hayes, SW cor. Sec. 6-16-15w.
Location.

Treleaven & Brimm et al's No. 1 Haas, SW cor. Sec. 30-18-15w.
6-in. 3,405 ft.; Reagan sand 3,585 ft.; pay 3,603-06 ft., T.D.; flowing by heads; est. 1,000 bbls. per day.

BUTLER COUNTY

Gaines et al's No. 1-A McKinley, NE NE SE Sec. 19-29-4.
Acidized K.C. lime 1,890-1,950 ft.; flowed 25 bbls. oil, 25 bbls. wtr.; reacidizing.

CLAY COUNTY

Seidel Bros.' No. 1 Younken, C S½ SE NW Sec. 21-9-4.
T.D. 1,631 ft.; S.D.

Severs et al's No. 1 Meyers, NE NW NW Sec. 4-10-4.
T.D. 1,824 ft.; S.D.

COWLEY COUNTY

Otstot et al's No. 1 Eckhardt, SE NW Sec. 15-35-6.
Spudded and S.D.

DICKINSON COUNTY

Dutch Oil Co.'s No. 1 Phillips, C NE NW Sec. 15-15-1e.
T.D. 2,655 ft.; S.D.

ELK COUNTY

Lassen's No. 1 Ferguson, SE SE SW Sec. 21-30-8.
1,760,000 ft. of gas 2,056-5 8ft.; 5-in. csg. 2,160 ft.; sand 2,169-76 ft.; acidizing.

ELLSWORTH COUNTY

Pryor-Lockhart et a's No 1 Gregory, SE cor. Sec. 19-16-8w.
Location.

HARVEY COUNTY

O. J. Connell et al's No. 1 Roth, SW cor. Sec. 16-22-2w.
Spudded and S.D.

Imo O. & G. Co. et al's No. 1 Sperling, SE NE NE Sec. 23-22-2w.
Hunton lime 3,279-3,341 ft.; swbd. 180 bbls. in 24 hrs.

Wenzel et al's No. 1 Schrag, NW SE Sec. 24-22-2w.
T.D. 587 ft.; S.D. for csg.

McPHERSON COUNTY

Lario O. & G. Co.'s No. 1 Base, SW cor. Sec. 22-20-2w.
Chat 2,981 ft.; standardizing at 2,983 ft.

L. W. Prunty et al's No. 1 Davis, NE cor. Sec. 6-22-1w.
Chat 2,922 ft.; drlg. 2,928 ft.

Roth-Faurot et al's No. 1 Bestvater, SE SW SE Sec. 23-20-1w.
6-in. 3,465 ft.; Wilcox 3,476 ft.; T.D. 3,485 ft.; H.F.W.; S.D.

Stafford et al's No. 1 Krehbiel, NW NW SE Sec. 27-21-3w; (O.W.D.D.).
C.O. at 2,080 ft.

NESS COUNTY

Texas Co. and Gypsy Oil Co.'s No. 1 Goodman, C SW SW Sec. 21-19-23w.
T.D. 4,355 ft.; fishing.

OSAGE COUNTY

Jim Edwards' No. 1 Dstrich, C NW SE Sec. 21-14-15.
Spudded and S.D.

PRATT COUNTY

Atlantic Oil Prod. Co.'s No. 1 Prentice, C SE NW Sec. 18-28-14w.
T.D. 3,962 ft.; S.D.

(Continued on Page 154)

First 29 Wells Tested in Fitts Pool, Oklahoma, Average 3,590 Bbls. Per Well; Extend Pool

By JAMES McINTYRE

The Oklahoma Corporation Commission approved Friday, January 25, the recommendation of the umpire's department, which set the total daily market demand for Oklahoma crude for the month of February at 497,100 bbls., the same as the federal allocation. In an earlier session of operators, held to work out recommendations, it was suggested the East Little River, East Seminole, Searight and Mission Pools be permitted to produce to capacity in addition to the continued capacity production for the Tatums Pool and the five Greater Seminole pools, Allen, Sasakwa, Konawa, Asher-Wanette and Maud, which were granted capacity production during the month of January.

The new allowable increases production in Oklahoma 7,800 bbls. over January with the recommended allowables of the prorated pools over the State as follows:

	Bbls.
Oklahoma City, Wilcox zone	126,567
Oklahoma City, Simpson zone	28,000
Oklahoma City, Fault Line zone	700
Seminole and others (group)	54,639
St. Louis	23,164
Sasakwa townsite	1,460
Calvin sand, East Earlsboro	1,374
Fish, Cromwell zone	5,000
Crescent	4,292
Lucien	8,587
Polo	2,500
Fitts-Bromide	9,000
Keokuk Falls	1,288
Edmond	1,200
South Fish, Wilcox zone	1,500

Class "D" or wildcat pools: Langston, 400; Wilzetta, 500; North Searight, 400; Dill, 300; Springrose Hill and refinery, 200; Russel Highley, 100; Oklahoma City Cleveland sand zone, 300; Olympic, 200; Shawnee, 400; Gessman, 600; Grisso, 300; East Lucien (Viola), 200; Altus, 300; Grayson, 100; Bay Oil-Hudson, 200; Marathon-Gilbert, 100 bbls.

Estimates for those pools recommended to produce to capacity are: Allen, 7,119; Sasakwa, 767; Konawa, 1,800; Maud, 942; East Little River, 595; Mission, 2,788; East Seminole, 1,071; Searight, 2,656; Tatums, 6,306; and Asher-Wanette, 1,067 bbls.

Much Lease Buying

Lease buying on a big scale in nearly all sections of southern Oklahoma at the present time by practically every major company operating in the State is proving a real boon to the farmers and residents in that section and in some few cases takes on an aspect of a real bonanza, particularly the area in Jackson County centering around the town of Altus. It is reported that prices have ranged as high as $100 an acre which was the price supposedly paid for the NW Section 3-1n-20w, three-quarters of a mile northwest of the Gypsy Oil Co.'s discovery well, No. 1 Kelly, located in the NE cor. Section 10-1n-20w.

The prevailing prices, however, have been considerably less in as much as the area is wholly wildcat with the Gypsy well the only producer and estimated good for only 250 bbls. daily. Pontotoc, Atoka and Coal Counties are also getting a big play, particularly Townships 1s, 1n and 2n, Ranges 7e to 12e, while tests of importance in nearby sections are closely watched.

Pontotoc County

The Paramount Petroleum Co.'s very interesting test in Pontotoc County, No. 1 Graham, SW SE SW Section 13-1n-7e, which is reported running high structurally, on top of the Hunton lime encountered at 2,490 feet, had yielded a saturated lime core taken from 2,500-07 feet, total depth, and cable tools were being rigged up preparatory to drilling cement plug.

The test of J. D. Sledge and Jack Lynch's, No. 1-A Thompson, SW NE SW Section 1-1n-7e, Pontotoc County, was dry in the Bromide series at 4,585-4,600 feet and was drilling at 4,607 feet.

Potential tests of the Bromide sand wells in the Fitts Pool were still under and the combined gauges of the 29 wells on which tests had been taken up to January 24 was 104,121.63 bbls., with a few more yet to be taken. The average potential was 3,591 bbls. per well. Stanolind Oil & Gas Co.'s No. 2 Norris Royalty Co., SE SW SE Section 25-2-6, was washed in through 2½-inch tubing and flowed 525 bbls. of oil the first hour through casing. Bromide sands were topped at 4,216 feet and 4,267 feet and the total depth was 4,315 feet, 11 feet in McLish lime.

The Fitts Pool in Pontotoc County was extended a quarter mile west by the Magnolia Petroleum Co.'s No. 5 Norris, NW NW SE Section 25-2-6. It flowed 777 bbls. the first hour from Bromide at 4,102-4,305 feet.

Carter Oil Co.'s No. 3 Richards, NE NW SE Section 30-2-7, Fitts Pool, flowed 575 bbls. in 3 hours and 15 minutes through open casing and tubing. It was completed at a total depth of 4,215 feet, 15 feet in the McLish lime.

Deep Rock Oil Corp.'s No. 2 Hardin, SW SE NE Section 30-2-7, Fitts Pool, logged first Bromide sand at 4,095-4,135 feet and second Bromide from 4,200-31 feet, stopping at 4,234 feet in McLish lime. This was another big well for the pool, tanking 845 bbls. of oil in two and three-fourths hours flowing through casing. It was completed.

Stanolind Oil & Gas Co.'s No. 4 Hardin, SE NW SW Section 30-2-7, was officially completed for an estimated 50,000,000 feet of gas in the Gilcrease sand topped at 1,180 feet. Total depth was 1,468 feet.

Pontotoc County first reports for the week are as follows: Magnolia Petroleum Co.'s No. 1 Schaffer, SE SE NW Section 25-2-6, location; Carter Oil Co.'s No. 8 Richards, NE NE SE Section 30-2-7, building rig; W. A. Delaney's No. 4 Hardin, NE SW NW Section 30-2-7, rigging up rotary.

Viola lime production has been nothing new in the Fitts Pool of Pontotoc County, but a Viola lime flowing well is new for the pool and such a well was Stanolind Oil & Gas Co.'s No. 2 Norris, NE SW SE Section 25-2-6, which topped that formation at 3,755 feet and at 5 feet in it began flowing at the rate of 50 bbls. an hour through casing.

Estimated Production

Estimated production by pools in Oklahoma for the week ended January 26 and for the preceding week follows:

	Barrels	
	Jan. 26	Jan. 19
Allen	8,525	8,725
Asher-West Asher	1,525	1,525
Burbank	8,750	9,100
South Burbank	9,500	10,000
Balance of Osage	27,000	27,500
Blackwell	4,750	4,750
Bristow-Slick	9,500	9,650
Crescent	5,225	4,900
Cromwell	4,500	4,500
Cushing-Shamrock	13,000	13,300
Duncan district	4,100	4,100
Chandler	6,000	6,150
Fish	7,950	7,700
Fitts	4,275	3,725
Gray	2,025	1,975
Graham	3,500	3,400
Healdton	9,000	9,200
Hewitt	4,750	4,800
Holdenville	2,000	2,075
Keokuk	850	1,475
Konawa	2,075	2,150
Lucien	8,975	8,775
Marshall-Lovell	1,000	1,000
Oklahoma City	186,800	166,120
Papoose	1,250	1,250
Sasakwa and townsite	2,575	2,475
Sholem-Alechem	4,000	4,100
Seminole Field:		
Bowlegs	12,325	12,050
Carr City	5,250	6,250
Earlsboro	9,675	9,900
East Earlsboro	8,225	9,000
South Earlsboro	1,100	1,150
Little River	13,300	15,200
East Little River	575	675
Maud	1,550	1,550
Mission	2,675	3,125
Seminole	9,625	10,675
East Seminole	1,050	1,100
Searight	3,000	3,525
Total Seminole	66,950	74,200
St. Louis-Pearson	19,600	21,050
Tatums	5,000	6,000
Tonkawa-Garber-Thomas	6,000	6,000
Wewoka	4,000	4,400
Yale-Jennings	4,800	4,825
Other pools	58,200	59,200
Total Oklahoma	509,950	493,295

Osage County

Two completed oil wells of considerably different capacities were completed in Osage County's major pool, South Burbank, during the past week. In the north end of the field Enterprise Transit Co.'s No. 2 McKinley, SW NW SW Section 35-26-6, flowed 3,119 bbls. the first 24 hours from Burbank sand drilled from 2,811-94 feet, total depth, whereas, in the south end of the pool, A. H. Kasishke's No. 4 in the NW NE NW Section 21-25-6, logging Burbank sand at 2,745-68 feet, pumped only 80 bbls. of oil in 24 hours for its completed gauge.

The Naval Reserve Pool of Osage County lost one operation in the abandoning of Lewis Production Co.'s No. 6 6, NE NW NW Section 21-24-7, which had been spudded in.

A hole full of water was encountered in the Cleveland sand at 1,465-73 feet.

Wildcat Operations in Oklahoma

Week Ending January 26

NORTHERN OKLAHOMA

BECKHAM COUNTY

Fred Coogan et al's No. 1 Shelton, SW cor. Sec. 33-10-25w.
T.D. 318 ft.; rerunning surface pipe.

CADDO COUNTY

H. W. Lee et al's No. 1 Stacey Ferrell, SW NE NE Sec. 3-6-12w; (3,000-ft. test).
10-in. 1,402 ft.; S.D.

Denver Prod. & Ref. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w.
T.D. 11,230 ft.; C.O. to 10,000 ft.; flowing by heads est. 50 bbls. oil in 24 hrs.; agitating with mud pump.

CLEVELAND COUNTY

Sinclair Prairie et al's No. 1 Franklin, SE NW SE Sec. 21-10-2w.
Pits, and moving in.

COAL COUNTY

J. D. Petty Oil Co.'s No. 1 McMillan, SW NW NE Sec. 16-1s-8.
Running 6-in. csg. at 1,110 ft.

GARVIN COUNTY

Anderson & Kerr's No. 1 Riley, SE SE NW Sec. 2-4-1w (5,800-ft. test).
S.D. 4,152 ft.; engine repairs.

Charles Carter and W. S. Key, Inc.'s No. 1 Wood, C NW SW SE Sec. 5-4-3e.
Set surface pipe.

National Prod. Co.'s No. 1 Littrell, NE NE NE Sec. 31-2-3w.
S.D. 1,087 ft.

George L. Pace's No. 1 Smith, SW NE Sec. 35-1-1.
Location.

GRADY COUNTY

Carter Oil Co. and Magnolia Pet. Co.'s No. 1 Harrison C-34, C NW NW Sec. 34-3-5w.
T.D. 5,963 ft.; abd.

GRANT COUNTY

Helmerich & Payne's No. 1 Crouse, C NE SW Sec. 29-25-3w.
Mississippi lime 5,805 ft.; S.D. 5,920 ft.

HUGHES COUNTY

Dandridge & Crane's No. 1 Mead, NW NW NE Sec. 17-5-9.
10-in. 270 ft.; T.D. 750 ft.; S.D.

Freeman et al's No. 1 Kite, NW NW NE Sec. 8-6-10.
Sand 596-98 ft.; show oil; S.D. for pipe.

Turner et al's No. 1 Williams, SW cor. Sec. 35-7-10.
Rig.

KAY COUNTY

Harris & Haun's No. 1 Schuessler, C NW SW Sec. 3-28-2.
Drlg. 1,940 ft.

Bay Oil Co.'s No. 1 Holden, SW SW SE Sec. 14-28-3.
6-in. 2,945 ft.; drlg. plugs.

Lancer Oil Corp.'s No. 1 Hugo, SE NW NW Sec. 22-33-5.
Location.

S. R. McCorkle et al's No. 1 Smith, SW cor. Sec. 6-26-4.
S.D. 457 ft.

KINGFISHER COUNTY

Black Gold Oil Co.'s No. 1 Cole, C SW NE Sec. 34-15-5w.
Drlg. 4,925 ft.

LINCOLN COUNTY

Tom Bennett et a's No. 1 Bolby, C SE SW Sec. 27-12-2.
Cored 5,065-81 ft.; S.D. for csg.

Derrickson and Reserve Pet. Co.'s No. 1 Law, SE SW NE Sec. 25-14-3.
Rig on ground.

Chester L. Carlock's No. 1 Young, C N½ NW NW Sec. 33-15-5.
Rig.

Sinclair Prairie Oil Co.'s No. 1 Hoyt, NW SW NE Sec. 5-14-3.
Wilcox sand 5,062-71 ft.; flowed 200 bbls. in 24 hrs.; second Wilcox sand 5,106-13 ft., T.D.; wtr.; P.B. to 5,084 ft.; flow 300 bbls. oil in 24 hrs.; to shoot.

Sinclair Prairie Oil Co.'s No. 1 Boland, SW cor. Sec. 25-12-3.
Second Wilcox 5,536-61 ft., T.D.; H.F.W.; dry and abd.

Slick-Urschel's No. 1 Miller, NW SE Sec. 25-15-3.
Location.

LOGAN COUNTY

Helmerich-Payne et al's No. 1 Sturgis, SE NW Sec. 1-15-2w.
Mississippi lime 5,533 ft.; drlg. 5,580 ft.

Shell Pet. Corp. et al's No. 1 Hirsel, SE SW SW Sec. 7-16-2w.
Oread 3,360 ft.; Avant 4,020 ft.; upper Layton 4,165 ft.; drlg. 4,459 ft.

Sinclair Prairie and Slick-Urschel's No. 1 Koatsch, SW cor. Sec. 23-15-3w.
Moving in rig.

Sinclair Prairie Oil Co. et al's No. 1 Dunbar, Sec. 25-15-4w.
Wilcox 6,890 ft.; dry and abd.

Sinclair Prairie Oil Co. et al's No. 1 School Land, SE cor. Sec. 36-17-1w.
Simpson dense 5,266-60 ft., T.D.; flow 224 bbls. in 8 flows 24 hrs.; standardizing.

Slick-Urschel et al's No. 1 Pennington, C SW NE Sec. 10-16-1w.
Rig.

J. C. Schaffer et al's No. 1 Watson, C NW NE Sec. 15-15-4w.
Cellar.

NOBLE COUNTY

Marathon Oil Co.'s No. 1 Gilbert, NE cor. Sec. 24-22-2.
Wilcox sand 4,449 ft.; T.D. 4,480 ft.; flowing by heads; no est. production.

OKFUSKEE COUNTY

Amerada Pet. Corp.'s No. 1 Jaynes, NW NW SW Sec. 20-10-10.
Gilcrease 2,668 ft.; fishing 2,785 ft.

Mid-Continent Pet. Corp.'s No. 1 Haney, SW SE NE Sec. 24-12-8.
Wapanucka 3,427 ft.; Cromwell 3,440 ft.; drlg. 3,635 ft.

OKLAHOMA COUNTY

Anderson & Kerr et al's No. 1 Linn, SW NW Sec. 17-14-2w.
Location.

R. Carl Larkin's No. 1 Brobine, NW NW NE Sec. 33-13-5w.
Rig and pits.

J. C. Shaffer et al's No. 1 Bullard, SW cor. Sec. 13-13-2w; (Wilcox test).
Wilcox 6,525 ft.; T.D. 6,542 ft.; dry and abd.

Springrose Drlg. Co.'s No. 1 Edwards, C SE Sec. 19-11-1.
T.D. 6,540 ft.; P.B. to 5,500 ft.

OSAGE COUNTY

Peters Pet. Co. and Norbla Oil Co.'s No. 1, SW cor. Sec. 15-25-5.
S.D. at 2,134 ft.

PAYNE COUNTY

Marathon Oil Co.'s No. 1 Potts, C SW SW Sec. 27-19-2.
Drlg. 4,805 ft.

PITTSBURG COUNTY

McAllister Pet. Corp. et al's No. 1 Chunn, C SE NW Sec. 29-4-14.
T.D. 1,530 ft.; pipe collapsed; S.D.

P. H. Gray et al's No. 1 Lee, NW SE Sec. 12-5-12.
Drlg. 650 ft.

PONTOTOC COUNTY

E. M. Blanchard's No. 1 Crabtree, NE SE NE Sec. 27-3-6.
S.D. 2,930 ft.

(Continued on Next Page)

total depth, and Johnson Oil & Refining Co. and others' No. 7, SE NW SE Section 30-21-9, Osage City Pool, was abandoned.

In the Flat Rock district of Osage County, Grimes & Gillespie's No. 23, an old well in the CEL NE Section 8-20-12, had been deepened to 2,194 feet, total depth, still in its original producing horizon, the Siliceous lime, and was completed for 40 bbls. daily on the pump.

Osage County's new work included: A. H. Kasishke's No. 5, NE NW NW Section 21-25-6, South Burbank Pool, rigging up machine; Texas Co.'s No. 3, SE NE Section 29-25-8, old total depth 1,141 feet, rigging up to deepen; Champlin Refining Co.'s No. 7, SW SE NW Section 16-24-7, Naval Reserve Pool, building rig; A. H. Kasishke's No. 13, SW NE SE NE Section 16-24-7, Naval Reserve Pool, rig; Lewis Production Co.'s No. 7, NW NE SW Section 16-24-7, building rig; A. H. Simon's No. 1, NW SW SW Section 28-24-8, Falls Dome Pool, rigging up machine; Pure Oil Co.'s No. 4, SE NW NW Section 25-22-7, Boston Pool, rigging up to deepen; E. O. Platter's No. 2, SW NW SE Section 14-22-8, West Hominy, location; Pure Oil Co.'s No. 3, SW NE SE NW Section 36-22-8, Osage City Pool, old total depth 2,720 feet, rigging up to deepen; Ohio Osage Oil Co.'s No. 23, SW SE SW Section 9-21-9, East Osage City Pool, old total depth 2,215 feet, rigging up to deepen, and same company's No. 3, NW NE NW NW Section 16-21-9, old total depth 2,232 feet, rigging up to drill deeper.

Kay County

Offsetting the Bay Oil Co.'s discovery of recent date in Section 14-28-3, Kay County, which found Skinner sand around 2,963 feet good for an estimated 165 bbls. of oil, Bay Oil Co. staked location for its No. 1 Curtis, NE NW Section 23-28-3. Also offsetting the discovery well which is still in the process of completion, Texas Co. was building rig on location staked last week for its No. 1 Curtis, NW NE Section 23-28-3.

Noble County

Potential tests of producing wells in the Polo Pool of Noble County were again under way after a temporary shutdown due to the extreme cold weather. Stanolind Oil & Gas Co.'s No. 3 BeBord, SW NW SW Section 27-22-2w, which flowed 1,285 bbls. in 15 hours from Wilcox sand logged at 4,486-4,910 feet, was shut in ready for its potential test. The same company's No. 3 DeVore, SE SW NW Section 27-22-2w, had sand from 4,903-16 feet, total depth, and tubing was being run in order to wash in expected production.

Twin State Oil Co.'s No. 2 DeVore, SE NW NW, was shut in preparatory to taking its potential gauge. Sand encountered from 4,875-4,905 feet and 4,917-30 feet, had gauged 60 bbls. per hour through tubing.

After recovering an oil saturated core from 3,953-55 feet in the No. 3 Smith, SE NE NE Section 28-22-2w, Noble County, Polo Pool, Sinclair Prairie Oil & Gas Co.'s drilling crew started bailing operation and after bailing down the hole started filling with water. It was then plugged back several feet with cement and cable tools were being rigged up to drill out the cement. So far this test has not shown for as good a well as might be considered the average for the pool. Eighty-one barrels of oil was swabbed in from sand 4,910-44 feet several days ago.

Twin State Oil Co. was having materials moved in on location for its No. 3 DeVore in the SW NE NW Section 27-22-2w, Polo Pool, in Noble County.

Logan County

Sinclair Prairie Oil & Gas Co. and others' No. 1 Dunbar, community test and a wildcat location on the Navina Ridge in southern Logan County, in the SW NE Section 25-15-4w, was dry and abandoned at a total depth of 6,907 feet. Wilcox sand topped at 6,890 feet revealed white and salty sand in a core taken from 6,894-6,907 feet.

Almost midway between the towns of Edmond and Guthrie, Sinclair Prairie and Slick-Urschel, Inc., had staked location for their wildcat well, No. 1 Koatsch, SW cor. Section 23-15-3w, southern Logan County, and rig timbers were being moved in.

Lincoln County

In the Chandler Pool of central Lincoln County, Sinclair Prairie Oil & Gas Co.'s No. 4 Norton, SW SE NE Section 7-14-4, found a hole full of water in the Wilcox sand drilled from 5,031-33 feet, total depth, and it was abandoned.

Sinclair Prairie Oil & Gas Co.'s No. 1 Boland, Wilcox sand discovery of the Meeker Pool in southern Lincoln County, which was completed in February, 1934, for 440 bbls. in sand found at 5,455-61 feet, later to be productive of more water than oil, was plugged back to 4,530 feet and abandoned after an unsuccessful attempt to produce the Prue sand at 4,300-40 feet.

About 2 miles due north of the West Chandler Pool in Lincoln County, location was staked by Slick-Urschel, Inc., for their No. 1 Miller, NW SE Section 25-15-3.

Hughes County

Fitzpatrick and others had completed their No. 1-A Dixon, NE SW NE Section 12-9-8, Olympic Pool in Hughes County, for 4,500,000 feet of gas in sand at 1,460-65 feet, total depth.

In the Holdenville Pool, Hughes County, Sunray Oil Co. had abandoned its No. 3 Jacobs, NE NW NW Section 15-7-8, at a total depth of 3,425 feet, 5 feet in the Cromwell sand topped at 3,420 feet. A hole full of water was encountered in the Gilcrease sand at 3,170 feet.

Oklahoma County

J. C. Shaffer and others' No. 1 Bullard, SW cor. Section 13-13-2w, wildcat test in central Oklahoma County, found

Wildcat Operations in Oklahoma

(Continued from Preceding Page)

Paramount Oil Co.'s No. 1 Graham, SW SE SW Sec. 13-1-7.
Hunton lime 2,490 ft.; 8-in. 2,498 ft.; moving in machine to drill in.
Gillett & Kroeger's No. 1 Robbins, NE SE Sec. 31-1-4.
Machine.
Gillette & Kroeger's No. 1 Duver, NW SE Sec. 36-1n-6e.
T.D. 784 ft.; S.D.
H. M. Marcum's No. 1 Magnuson, SW SE SE Sec. 23-2-7.
8-in. 1,601 ft.; T.D. 1,644 ft.; S.D.
J. D. Sledge and Jack Lynch's No. 1-A (twin) Thompson, SW NE SW Sec. 1-1n-7e.
Drlg. 4,504 ft.; in Viola.
Southern Oil Corp.'s No. 1 Ladd, C NW NW Sec. 27-3-7.
Drlg. 2,023 ft.; in Viola.

PUSHMATAHA COUNTY

Whitehead Drlg. Co. et al's No. 1 Messer, SE SW SW Sec. 35-3s-13e (O.W.D.D.).
8-in. 2,595 ft.; sand 2,660-80 ft.; S.D. 2,-690 ft.

SEMINOLE COUNTY

Atlantic Oil Prod. Co. et al's No. 1-A Thompson (community test), SW SE SE Sec. 15-11-8.
Running 150 ft. of 10-in. surface pipe; T.D. 2,457 ft.
Ray Dorris and J. T. Hall's No. 1 Dorris, SE SE SW Sec. 31-10-7.
Spudded.
Crabtree Drlg. Co.'s No. 1 Chandler, NE SE SW Sec. 4-5-5.
Spudding.
Harris and Haun's No. 1 Harjo, NE SE NW Sec. 11-6-6; (O.W.P.B.).
P.B. to 2,115 ft.; H.F.W.; S.D.
Gypsy Oil Co.'s No. 1 Grayson, SW NW Sec. 13-6-5.
Simpson dolomite 3,745-3,804 ft.; swbd. 407 bbls. in 16½ hrs.; drilled to 3,809 ft.; no increase; shut in.
Verser & Clay et al's No. 1 Thomas, NE SE NW Sec. 1-6-6.
S.D. at 2,902 ft.
Wefford Drlg. Co. et al's No. 1 Abbott, NE cor. Sec. 35-8-7.
Rig.
Wefford Drlg. Co. et al's No. 1 Thomas, NW SE Sec. 8-6-7.
S.D. 1,743 ft.

TEXAS COUNTY (PANHANDLE)

Ben F. Ash et al's No. 1 Guymon Townsite, C NE SE Sec. 30-3n-15e; (Cimarron Meridian).
T.D. 2,420 ft.; fishing for drill pipe.

WASHITA COUNTY

Okla.-Midwestern Oil Co.'s No. 1 Dock, SW cor. Sec. 21-8-18w.
T.D. 2,430 ft.; lost tools in hole; rig rebuilt; S.D.
Anadarko Basin Oil Co.'s No. 1 Wolf, NE SW Sec. 23-9-17w.
Rigged up and S.D.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Brookshire et al's No. 1 Rowland, NW NE NE Sec. 13-3-10.
H.F.W. 3,344 ft.; will abd.
Malernee et al's No. 1 D. O. K. Land Co., C SE SE Sec. 16-2s-13.
S.D. 3,115 ft.

BRYAN COUNTY

C. B. Welch's No. 1 Collins, SW cor. NE NE SE Sec. 19-8s-8e.
Machine.

COMANCHE COUNTY

H. W. Baker's No. 1 Miller, SE SW SE NE Sec. 22-2-13w.
Spudded and S.D.
Henry Rosenthal et al's No. 1 Au-Chi-Re-Ah, NW cor. Sec. 5-1-9w.
Drlg. 240 ft.
F. F. Stevens' No. 1 Green, SE SW Sec. 2-1-13w.
T.D. 1,215 ft.; S.D.
Heiden & Taylor's No. 2 Crutcher, C NE Sec. 11-1n-12w.
S.D. at 860 ft.

JACKSON COUNTY

Associated Oil Co.'s No. 1 Harrell, NE SW Sec. 13-1-21w.
Spudded and S.D.
Burk Royalty Co.'s No. 1 Gore, SE NW SE Sec. 3-1s-20w.
S.D. at 1,900 ft.
Gypsy Oil Co.'s No. 1 Stokes, SE NW SW Sec. 11-1-20w.
Lime 1,709-11 ft.; T.D. 1,722 ft.; S.D.
Petroleum Prod. Co.'s No. 1 Cole, SW SE Sec. 34-2-20w.
Drlg. 670 ft.
Selby Oil Co.'s No. 1 Holt, SE SW Sec. 15-2-20w.
Spud.
D. Scheig's No. 1 James, NE cor. Sec. 23-1-20w.
Drlg. 325 ft.

JOHNSTON COUNTY

W. A. Delaney et al's No. 1 Diamond, NW NE SE Sec. 5-1s-8.
Viola 1,348 ft.; S.D. 1,360 ft.

MARSHALL COUNTY

Paul Robb's No. 1 Vittetoe, C NE SE Sec. 11-5s-4e.
Woodford 4,945 ft.; S.D. 4,955 ft.

McCURTAIN COUNTY

J. V. Scrivener et al's No. 1, NE SW SW Sec. 34-6s-21.
S.D. 800 ft.

MURRAY COUNTY

Equitable O. & G. Co.'s No. 1 Scott, CSL N½ NW SW Sec. 15-1s-3.
S.D. 396 ft.
Manahan et al's No. 1 Ward, NE SE NW Sec. 12-1s-3; (Wilcox sand test).
Spudded.
T. E. Revell et al's No. 1 Wolfe, NE cor. Sec. 18-1-2.
Sand 2,344-46 ft., T.D.; H.F.W.; dry and abd.
C. P. Williams et al's No. 1 Singleterry, SE SW NW Sec. 25-2s-3e.
T.D. 743 ft.; S.D.

STEPHENS COUNTY

Wm. Angle's No. 1 Johnson, NE cor. SE Sec. 17-1n-8w.
T.D. 2,472 ft.; 10,000,000 ft. of gas through 2-in. tubing; sprayed some gasoline; est. at 40,000,000 ft. on open flow; comp.
J. W. Madison's No. 1 Tussey, SW SE NW Sec. 24-1n-4w.
Rig down, drill pipe in hole; T.D. 3,220 ft.

When You See Cores Like These . . .

You *know what to do!*

Visible proof, based on perfect, uncontaminated cores, taken with the Baker Cable Tool Core Barrel, is better than any man's guess founded on bailer samples or a neighboring operator's recollection.

EASY OPERATION

Any competent driller can take perfect cores right from the start with the Baker Cable Tool Core Barrel. He simply uses a shorter stroke and slower motion, drills with a little slack line and keeps the core-taking tube on bottom.

NO LOST TIME

Generally speaking, drilling progress while coring with a Baker Core Barrel is as fast as ordinary drilling — and core recoveries are from 80% to 100% depending on the formation. You can drill out to gage as easily with the core barrel as with a bit.

LOW INITIAL COST

The original cost of a Baker Cable Tool Core Barrel is low—the No. 6 Core Barrel which drills a hole from 5-11/16 to 6½ inches, depending on the size of shoe, costs only $525.00, freight allowed to any point in the United States. Maintenance expense is correspondingly low, for the design and construction assure long service life.

Baker Cable Tool Core Barrel—The Modern Way to Get Complete Structural Knowledge.

SEND FOR DETAILED INFORMATION

Ask for the booklet describing this tool and dealing with the advantages of consistent coring.

BAKER OIL TOOLS, INC.

POST OFFICE BOX 609 HUNTINGTON PARK CALIFORNIA

COALINGA • TAFT • HOUSTON • OKLAHOMA CITY • TULSA • NEW YORK

BAKER CABLE TOOL CORE BARREL

dry Wilcox sand from 6,525-42 feet, total depth, and it was abandoned. Formations encountered in this test and their tops were as follows: Pawhuska, 2,857 feet; Oriad, 3,828 feet; Layton, 4,385 feet; Checkerboard, 4,875 feet; Oswego, 5,675 feet; Hunton, 5,999 feet; Sylvan, 6,200 feet; Viola, 6,300 feet; Simpson dense, 6,335 feet, and Wilcox, 6,525 feet.

In the north end of the Oklahoma City Pool, Larkin & Warr's No. 5, M.K.&T. "B," NW NE SE SE Section 34-12-3w, Oklahoma County, was completed in Wilcox sand with an estimated 12,000,000 feet of gas.

Maraydum Oil Co. had completed its No. 1 Stamper, SW NE SE Section 22-11-3w, Oklahoma City Pool, for 216 bbls. of oil in four hours from Wilcox sand drill ' from 6,445-6,521 feet, total depth. Production was on the swab and came after the sand was shot with 150 quarts of nitroglycerin.

Ray Stephens and others found the Wilcox sand at 6,484-6,520 feet, total depth, good for 226 bbls. of oil in four hours on the swab, same being its complete gauge.

Oklahoma County drew two new operations during the week, both of which were in the Edmond area. Marathon Oil Co.'s No. 3 Dahl, NW SE Section 31-14-3w, had cellar dug and the same company's No. 1 Dahl, Account No. 2, was a location in the NE NE SW Section 31-14-3w.

Comanche County

In the Lawton Pool of Comanche County, shallow sands were missed in the No. 1 Clark, drilled by Ashcraft and Palmer in the NW SE Section 28-2-10w, and it was abandoned at 485 feet.

Ashcraft and Palmer had a machine on location for their No. 4 Noble, SW SE SE NW Section 28-2-10w, east side

Operations had started up on the wildcat test of Henry Rosenthal and others, of the Lawton Pool in Comanche County. No. 1-B Au-chi-re-ah, NW cor. Section 5-1-9w, and the bit was below 240 feet. This test is about 4½ miles northwest of production in the North Duncan district.

Okfuskee County

In the Fields Pool of Okfuskee County, Mid-Continent Petroleum Corp.'s No. 3 L. Field, NW NE SE Section 3-11-11, which was drilled to a total depth of 4,316 feet in lime, was plugged back to 3,735 feet and abandoned when a shot of nitro at 2,690-2,700 feet yielded only a small show of gas.

Panther Oil Co.'s No. 16 Smith, SW NE NE Section 11-11-11, Fields Pool in Okfuskee County, was a rig abandoned.

Smith Drilling Co. and others' No. 2 Robinson, CNL SW NE Section 26-11-11, in the Deaner Pool of Okfuskee County, was completed for 8 bbls. of oil in the Booch sand found at 2,035-45 feet, total depth, after shooting with 60 quarts of nitro.

In the Weleetka Pool, southeastern Okfuskee County, Wells Oil Co.'s No. 6 Moore, C SW NE Section 14-10-11, encountered Booch sand from 2,140-50 feet, total depth, which tanked 150 bbls. of oil in 24 hours for its completed gauge.

Carter Oil Co.'s No. 2 Dill, a location in the NE SE Section 2-11-8, Dill Pool, was the only new location staked in Okfuskee County during the past week.

Seminole County

The wildcat test of Delton Oil Co., No. 1 Robinson, NE cor. Section 18-11-8, northeastern Seminole County, encountered a small show of oil and a hole full of water in sand from 2,251-55 feet, total depth. It was abandoned.

One well was completed in the South Fish Pool during the past week for 2,981 bbls. of oil in 22 hours flowing through casing. It was a Wilcox sand producer logging sand from 4,247-51 feet, total depth.

J. E. Hall and H. B. Gentner's Sasakwa townsite test, No. 1, in Block 2, Miller Addition, approximate location being NW SE NW Section 36-6-7, Seminole County, was dry and abandoned, encountering a hole full of water in the Wilcox sand logged at 4,168-70 feet, total depth.

Seminole County new operations were as follows: Carter Oil Co.'s No. 1 Cully, C E half NE NW Section 18-10-6, North Searight Pool, had cellar and pits dug; standard tools were being rigged up to deepen Stanolind Oil & Gas Co.'s No. 1 Sarkey, NE NW SE Section 31-7-8, Fish Pool. Mid-Continent Petroleum Corp. had staked location for its No. 1 L. Harjo, NW SW Section 13-6-5, and also its No. 1 L. Cudjo, SE NE Section 14-6-5.

Pottawatomie County

Pottawatomie development during the week included the completion of two oil wells for a combined initial gauge of 891 bbls. of oil and one dry hole. The dry hole was Phillips Petroleum Co.'s No. 1 Windall, NW SW NE Section 8-10-4, Shawnee Pool, which had dry Wilcox sand from 5,595 to 5,629 feet, total depth. Earlsboro sand yielded a small show of oil in a core taken from 4,570-85 feet.

Vivian Oil Co.'s No. 2 Atchley, in the south end of the St. Louis Pool, Pottawatomie County, swabbed 1,137 bbls. of oil and 1,320 bbls. of water on its 48-hour potential test. Production is coming from Simpson dolomite formation logged at 4,153-91 feet, total depth.

In the center of the St. Louis Pool of Pottawatomie County, Hilton Phillips had completed his No. 3 Brister, NW SW SE Section 21-7-4, for 646 bbls. of oil and 320 bbls. of water on the pump in 48 hours. Viola lime was topped at 4,059 feet and at 4,111 feet filled the hole 2,200 feet with oil. It was then deepened to 4,170 feet, total depth, 59 feet in Simpson dense, where it began making water with no increase in oil, and was plugged back to 4,165 feet.

Six new operations were started in Pottawatomie County during the week. They were: Atlantic Oil Producing Co.'s No. 2 Boyd, C E half SW SE Section 7-9-5, location; Magnolia Petroleum Co.'s No. 2 Gates, NE SW NW Section 20-9-5, location; Smith & Scott's No. 1 Brandenburg, SE NW NE Section 3-7-4, rig; E. W. Jones' No. 2 Brandenburg, NW NE Section 10-7-4, rig; Magnolia Petroleum Co.'s No. 3 Hardin, SE SW NW Section 12-7-4, location, and same company's No. 1 Williamette, SW NE Section 12-7-4, a location.

Jackson County

Actual drilling operations were started on five tests recently staked in the newly active area centering around Altus, Jackson County. Selby Oil Co.'s No. 1 Holt, SE SW Section 15-2-20w, was spudding away at 20 feet. Petroleum Production Co. was drilling at 670 feet in its No. 1 Cole, SW SE Section 34-2-20w; Whatley & Whatley Oil & Gas Co. had started spudding its No. 1 Hardcastle, NE SW Section 15-1-20w, and same company's No. 1 Holt, NW SW SE Section 20-1-20w, was drilling at 400 feet. D. Scheig's No. 1 James, NE cor. Section 23-1-20w, was drilling at 325 feet. This active district drew another new one in Associated Oil Co.'s No. 1 Harrell, NE SW Section 13-1s-2w, which had spudded 25 feet and then shut down.

Stephens County

Operations in Stephens County during the past week resulted in the completion of a gas well and one new operation. William Angle's wildcat, No. 1 Johnson, NE SE Section 17-1-8w, northeast of the North Duncan Pool, found a sand at 2,374-2,415 feet which produced 7,000,000 feet of gas. It was completed at a total depth of 2,473 feet.

In the Velma Pool, east central Stephens County, Reese Drilling Co. and others were rigging up rotary tools for their No. 1-A Jones in the NW SW SE Section 23-1s-5w.

Jefferson County

About 1½ miles northwest of the Spring Pool in Jefferson County, Bridwell Oil Co. has abandoned its No. 1 W. D. Seay, NW cor. Section 22-6s-6w, at a total depth of 2,378 feet in shale, encountering dry sand at 1,755-75 feet and dry lime from 1,803-26 feet.

In the Oscar Pool of southeastern Jefferson County, O. V. Beck's No. 5 Seay, NE SW NW SE Section 34-6s-5w, was shot with 30 quarts of nitro in sand from 1,572-83 feet, pumping 30 bbls. of oil in 24 hours for its completed gauge. In the same operator's No. 6 Seay, sand showing oil was drilled from 1,269-74 feet and the bit was below 1,409 feet.

Rotary tools were being rigged up for No. 5 Wohlgemuth, Bridwell Oil Co.'s test in the CEL NE NW Section 30-6s-5w, Jefferson County.

Murray County

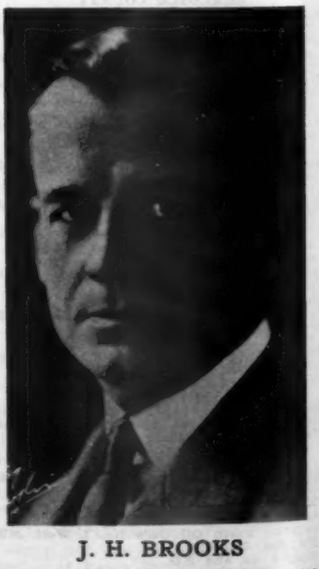
T. E. Revell's No. 1 Wolf, central Murray County wildcat test, had been abandoned at 2,846 feet, total depth. A show of gas and oil was had in this test at 2,435 feet and a sand topped at 2,844 feet and drilled to 2,846 feet, thought to be the Wilcox, filled the hole full of sulphur water.

Marshall County

In the Enos Pool of Marshall County, Centrop Oil Co.'s No. 1 Everette, NW cor. Section 36-7s-5e, logged dry Arbuckle lime at 417-26 feet and was abandoned in black shale at 675 feet.

Location has been abandoned for Roy A. Godfrey's No. 2 Amos Keg, NW NE NW NE Section 36-7s-5e, in the Enos Pool of Marshall County.

J. H. Brooks Elected President Tulsa Club



J. H. BROOKS

J. H. Brooks, vice president, Republic Supply Co., in charge of the Tulsa office, was elected president of the Tulsa Club at the annual meeting last week.

Slick Slimy MUD That flows easily

Colox is being made into muds that weigh as much as 70% more than the heaviest clay muds and still have proper consistency and smoothness for easy pumping, dependable mudding off and lubrication of the hole. Ask any operator, anywhere. Savings from 50% to 75% are being made over ordinary mud costs and much trouble prevented. Make use of Colox Engineering Service. A representative is in every field and he'll be glad to go into your mud problems with you. No obligations. and he'll probably save you money.

manufactured under exclusive license by

Geo. S. Mepham Corp., 8001 Lynch Ave., East Saint Louis, Ill. for Mid-Continent and Gulf Coast areas and

C. K. Williams & Co., of California, Ltd., Shellmound Park, Emeryville for Pacific Coast area

Under U.S. Patents Nos. 1,575,944-5

COLOX

COLLOIDAL IRON OXIDE

Important Development in Montebello District; New Light Thrown on Playa Del Rey Field

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Jan. 28.—It has become evident that wildcat exploration in California will become a vital factor during the next 11 months. This is meant to indicate that operators will pursue a more aggressive attitude and may possibly uncover a new productive area or two. The Texas Co., Standard, Shell and other operators have already assumed a positive position with respect to wildcat exploration and this is expected to prevail until another large field is opened. Progressive exploration is now a case of necessity if California is to maintain its position from a production standpoint.

Japan, the Orient and Australasia are demanding more crude and refined oil and if California operators are unable to meet the demand it will have to come from some foreign field. The Standard Oil Co., which discovered a new productive field last year on Bahrein Island in the Persian Gulf, is in a strategic position to meet requirements in the Far East and hence other operators must increase their reserves in California or allow this demand to be met by Bahrein production. California ports are approximately 750 miles nearer Japan than Bahrein Island and if all other factors are comparable, can meet this competition if the oil is available.

Need New Fields

The main problem confronting California operators at present is the necessity of discovering one or more new fields so that an abundance of oil will be available for domestic consumption and a surplus large enough to meet export requirements. The absence of any obligatory regulations with respect to curtailment of Bahrein production, however, affords the Standard a big edge if it chooses to meet competitive prices. Aside from the foreign market, it is generally recognized that California marketers have failed to maintain their reserves in the face of a consistently increasing demand. There is no possibility of any shortage during the next several years as far as normal demand is concerned but at the same time operators are reluctant to have their markets restricted. Before the development of prolific production in Los Angeles Basin fields, the state's market was limited to requirements of the Pacific Coast and adjacent territory but with the expansion of drilling this restriction was not flexible enough to permit the regulation of production to demand.

It has become increasingly evident during the past few years that California operators are approaching another period when they will be unable to continue shipments to the East Coast unless additional reserves are opened up. In addition to Kettleman Hills there are enough deep zones in proven fields to meet normal requirements for another decade provided operators make beneficial use of the reserves available and do not dump oil indiscriminately. The vast amount of potentially productive acreage in California is sufficient indicaton that new fields will be discovered from time to time, but the increasingly difficult problem of locating them makes it obligatory for marketers to use a little restraint. The decline in intercoastal shipments and the movement to Pacific foreign markets will be gradual, but it will not be many more years until these shipments are no longer profitable unless additional fields are opened up. As a matter of fact, exports to foreign markets and shipments to the Atlantic Seaboard during the past few years have been used as a lever to effect an equilibrium between supply and demand as every marketer frankly admits there has been little or no profit in offshore movements.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

Intercoastal-Domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Fuel oil	.....	.....	....	.....	.....	437,500
Gasoline	228,841	32,692	69,108	9,873	297,949	154,215
Kerosene	.....	.....	.....	.....	.....	79,620
Foreign expo. ts—						
Crude oil	283,413	40,488	58,161	8,309	341,574	903,026
Fuel oil	353,377	50,482	23,074	3,296	376,451	412,969
Diesel and gas oil	85,516	12,217	5,450	779	90,966	155,638
Gasoline	64,890	9,270	....	..	64,890	426,031
Kerosene	31,346	4,478	.....	.....	31,346	61,584
Coastwise-domestic—						
Crude oil	303,074	43,296	138,896	19,842	441,970	.....
Fuel oil	204,693	29,242	378,110	54,016	582,803	508,953
Diesel and gas oil	3,531	504	.....	.....	3,531	6,727
Gasoline	121,607	17,372	320,828	45,833	442,435	562,157
Kerosene	1,919	274	17,388	1,627	13,307	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	78,075	11,154	.....	.....	78,075	97,993
Foreign exports—						
Crude oil	.....	.....	.....	.....	.....	76,255
Fuel oil	53,891	7,699	.....	.....	53,891	79,351
Diesel and gas oil	2,684	383	1,174	168	3,858	795
Gasoline	99,569	14,224	62,530	8,933	162,099	78,042
Kerosene	1,330	190	14,370	2,053	3,383	10,960
Lubricants	.....	.....	.....	.....	.....	14,464
Coastwise-domestic—						
Fuel oil	136,694	19,528	43,482	6,212	180,176	82,593
Diesel and gas oil	.....	...	10,490	1,499	10,490	25,599
Gasoline	42,366	6,052	.....	.....	42,366	127,413
Kerosene	.....	.....	.....	.....	.....	7,317

Important Developments

Drilling operations resulted in a number of important developments during the past week, two of which may prove of great significance. These were the coring of a fine grained oil sand in the extreme eastern end of the Montebello Field and the failure of the Union Oil Co. to get substantial production in No. 6 Vidor, an offset to Charles Fourl's big well in the extreme eastern end of the Playa Del Rey Field of Los Angeles Basin. Faulting is believed to be the dominating factor in both fields and consequently the productive limits may be much larger than has been believed. Developments in both fields during the next few weeks should be watched closely as some indication of the potentiality of each should be manifested during this period.

University Consolidated Oil Co., discoverer of the deep Cruz zone in the Montebello Field of Los Angeles Basin, appears to have made a discovery of great importance in the area east of that in which several deep dry holes have been drilled up to date. After completing its discovery well in this field, the Universal drilled two additional deep tests but both were duds as were several other tests drilled by other operators. All of these were located west of the discovery well and when they failed to find the pay the Universal began drilling operations on a new well located east of production and consequently farther out on the plunge of the structure. If the deep Cruz zone conformed with the shallow productive zone it would have been picked up by some of the tests as they were located structurally higher than the discovery well.

New Zone Found

The Universal has found some interesting showings in its outpost east of the Montebello productive limits, and a drill stem test indicated the possibility that it had the makings of a well good for approximately 1,000 bbls. per day. Laboratory tests of the oil indicated that it was an excellent refining grade testing 34.9 degrees A.P.I. Preparations were immediately taken to make a further test and if everything goes well the potentiality of this outpost should be determined within 10 days. The oil sand found in Universal's test was medium grained and was logged approximately 1,500 feet higher than it was found in No. 1 Cruz. Of course it has not been definitely determined that the new zone is comparable with the Cruz horizon but at the same time it is obvious that if it is not the same sand the situation is more favorable because no oil sand was found above the Cruz in the discovery well.

If the Universal Consolidated has picked up the Cruz zone in its new outpost it will mean that commercial production may possibly be developed east of the Montebello Field instead of west as has been expected. If these two zones are comparable it is evident there has been an upward displacement in the eastern end of the Montebello structure. On the other hand if the new sand is comparable with the Baldwin zone, the strike may be of even more importance as this would still leave a possible lower zone available for testing. During the course of drilling the past few weeks correlation work has tended to indicate the probable existence of a cross fault between the new area and the old section of the field. This is of primary importance because if such is the case the Universal may open a new extension of the old field and greatly enhance the production of the field. This field looks very hot right now but reviewing the situation it is not surprising. No one can explain a 1,000-bbl. well out on the edge of a productive field even though no one else drilling higher structurally was able to locate the zone. If it is not west it must be east because wells of this character invariably indicate the existence of a substantial accumulation.

Playa Del Rey

The Union Oil Co. definitely indicated there is a major displacement in the eastern end of the Playa Del Rey Field of Los Angeles Basin when it cored the basement complex several hundred feet higher than it was found in Charles Fourl's No. 1 Palisades, which was completed several weeks ago. The Union's No. 6 Vidor, between Fourl's outpost and production in the older section of the field, was bottomed at 6,152 feet, whereas Fourl went down to 6,526 feet. The strange part of this is the fact No. 6 Vidor is a direct offset to Fourl's well and is not more than 600 feet west. Thus it is evident there is a downward displacement of approximately 400 feet in the 600-foot interval between these two wells. The Union got 47 feet of oil sand in No. 6 Vidor while Fourl got 145 feet in his No. 1 Palisades.

The difference in production of these two wells is as pronounced as the variation in depth and amount of oil sand cored. Fourl's new well on a recent five-day flow test reached a maximum on the fifth day of 5,425 bbls. of clean oil while No. 6 Vidor, finished a day or so ago, showed an initial daily production of approximately 840 bbls. The well has not yet cleaned up and so a complete gauge is not available. It came in flowing 35 bbls. per hour and on this basis is credited with 840 bbls. initially although it may build up a little higher. The significance of this development, in the extreme eastern end of the Playa Del Rey Field, lies in the fact it indicates a strong possibility that the town lot area may prove the most productive area of the entire field. In addition to the possibility that this new area may show the highest pro-

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.	T.	R.	Depth	Status—
Speik, F. A., No. 1 Athens, Los Angeles Co.	2-	3-	14	3,571	sd. sh. drlg.
Lennox Oil Fields Co., No. 1 Hawthorne, Los Angeles Co.	4-	3-	14	....	material
Ackerman, J. M., No. 1 Athens, Los Angeles Co.	18-	2-	14	....	rigged up
Macrate, A. N., No. 1 Athens, Los Angeles Co.	18-	2-	14	6,040	will cmt.
Hillside Oil Co., No. 1 Hermosa, Los Angeles Co.	31-	3-	14	....	grade
Wilshire Oil Co., No. 2 Potrero Deep, Los Angeles Co.	27-	2-	14	7,995	cleaning out
Trinity Oil Co., No. 1 Del Rey, Los Angeles Co.	27-	2-	15	....	rigging up
Madison Oil Co., No. 1 Del Rey, Los Angeles Co.	27-	2-	15	....	rigged up
Mammoth Oil Co., No. 1 Del Rey, Los Angeles Co.	27-	2-	15	1,161	sd. sh. drlg.
Fourl, C. W., No. 2 Del Rey, Los Angeles Co.	27-	2-	15	2,391	sd. sh. drlg.
Dunlap, D. D., No. 1 D.D., No. 1 Del Rey, Los Angeles Co.	27-	2-	15	4,581	sd. sh. drlg.
Pacific Drlg. Co., No. 1 Del Rey, Los Angeles Co.	27-	2-	15	80	suspended
Union Oil Co., No. 6 Del Rey, Los Angeles Co.	27-	2-	15	6,152	prod. test
Union Oil Co., No. 7 Del Rey, Los Angeles Co.	27-	2-	15	750	cmtd.
Big Ben Oil Co., No. 1 Del Rey, Los Angeles Co.	27-	2-	15	6,054	sd. sh. drlg.
Bethlehem Expl. Co., No. 1 Manhattan, Los Angeles Co.	30-	3-	14	5,304	rigged up
Staple Oil Co., No. 1 Manhattan, Los Angeles Co.	24-	3-	15	7,195	hd. sh. drlg.
Universal Consd. No. 4 Montebello Deep, Los Angeles Co.	6-	2-	11	5,051	sd. sh. drlg.
Shively, N. O., No. 1 Fuente Hills, Los Angeles Co.	23-	2-	10	2,875	sd. sh. drlg.
Pressel & Tull, No. 1 Puente Hills, Los Angeles Co.	30-	2-	9	4,147	hd. sd. drlg.
International Dev. Co., No. 1 Saugus, Los Angeles Co.	34-	5-	16	4,335	cmtd. 1,957
Barstow Oil Co., No. 1 Castaic, Los Angeles Co.	35-	5-	16	3,265	suspended
Republic Pet. Co., No. 1 Newhall, Los Angeles Co.	6-	3-	15	1,040	sd. sh. drlg.
Black Eagle Oil Co., No. 1 Huntington, Orange Co.		tideland		4,702	cmtd. 4,243
Explorers Drilling Co., No. 1 Fairview, Orange Co.	9-	6-	10	945	suspended
Nuoil Co., No. 1 Newport, Orange Co.	29-	6-	10	6,485	suspended
B. & B. Oil Co., No. 1 Newport, Orange Co.	19-	6-	10	4,075	sd. sh. drlg.
C. G. Shannon, No. 1 Yorba, Orange Co.	21-	3-	9	5,777	rigging up
Great American Pet. Co., No. 2 East Coyote, Orange Co.	19-	3-	9	3,155	cmtd. 3,152
Tehama Pet., No. 1 Santa Ana Canyon, San Bernardino	33-	2-	8	2,498	P.B. 2,381
San Diego Pet. Co., No. 1 Chula Vista, San Diego Co.	32-18-		2	6,383	cleaning out
Stephens, J. T., No. 1 Chula Vista, San Diego Co.	27-18-		2	168	hd. sd. drlg.
Edmonds, E. A., No. 1 Trustee, San Diego Co.	29-18-		3	2,431	hd. sd. drlg.
Great Coastal Oil Co., No. 1 Elsinore, Riverside Co.	34-	5-	5	896	hd. sd. drlg.
Corona Oil Co., No. 1 Corona, Riverside Co.	27-	3-	7	....	rigging up

duction it is also likely that the eastern limits may extend much farther east than has been generally expected. The contour of the hills indicates that the productive limits should extend several thousand feet east of Fourl's initial well up on the Del Rey Palisades. This area looks equally as hot as the eastern end of the Montebello Field especially since Fourl's outpost registered the largest initial of any well finished at Del Rey since discovery of the field. The Big Ben Oil Co. should shed further light on the trend of the structure in the latter field within the next few days as this well is nearing the point at which the pay should be picked up.

Mountain View

The Barnsdall Oil Co. registered another bull's eye in the Mountain View Field of Kern County early this week by completing No. 2 Morris flowing 1,225 bbls. of clean 30.4 gravity oil and 1,580,000 feet of gas per day from 5,783 feet after the hole had been finished with an 8⅝-inch water string landed at 5,082 feet and a 6⅝-inch liner carrying 716 feet of perforated. It is the most southeasterly producer finished in this field up to the present time, and is a little less than 1,000 feet due south of No. 1 Morris, which Barnsdall completed in October, 1934, flowing 2,240 bbls. per day from 5,685 feet.

Shell's No. 1 Morris, on the same property as the Barnsdall's two producers, was drilled about 1,500 feet north of the latter's No. 1 Morris and was abandoned at 5,977 feet in July, 1931. The Mohawk's test was on the Wharton lease, a direct offset to No. 1 Morris of the Shell, and was abandoned as a duster at 6,154 feet in October, 1931.

Other Tests

Southeast of the Barnsdall's No. 2 Morris, the Shell drilled a dry hole on the Goff lease and abandoned it at 4,393 feet in April, 1925. It is possible, however, that Shell's No. 1 Goff may have been drilled too far north because if such has been the case it would have been north of the fault zone instead of south where the accumulation is more pronounced. Ohio Oil Co. should determine the productivity of the Goff, or Derby lease, as it is now known, as it is drilling a well on this property at present. Primary exploration work in this field was a dismal failure but this is not due to any lack of competent geological experience on the part of the Shell and Mohawk companies or to any failure to persevere.

Sunday morning quarterbacks can very easily pick flaws in a football game played the preceding Saturday and by the same token it is easy to see the omissions of pioneers in a new area. By a strange co-incidence all of the wells drilled in the Mountain View Field during the early stages of development were located north of the primary fault which marks the northern limits of production. If the accumulation at Mountain View had been due to a normal anticline, the field would have been discovered by the Shell several years ago but due to some subsurface disturbance the field has proven to be a monocline with the accumulation on the south flank.

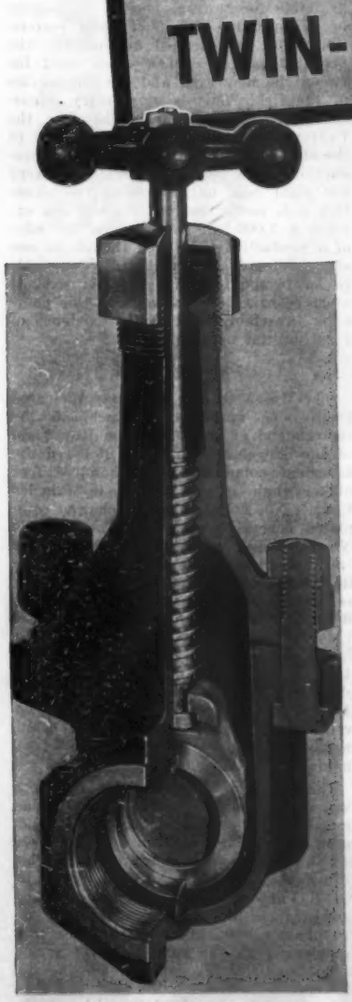
Unsuccessful Work

The Shell's No. 1 Porter-Day, the first well to be drilled in this field, as it is now outlined, is located within a few hundred feet of a producing well finished several years later, and strange as it may seem the Shell was unable to develop commercial production. This well came in flowing at the rate of approximately 1,000 bbls. per day on a preliminary production test, but due to the fact that the Shell was obliged to begin drilling operations on another 10 wells as soon as production had been found in one it was decided to conduct a deep test to determine just what had been found before producing from the first horizon. This hole was carried down, but failed to find commercial production in the lower zone and was plugged back to the upper zone. For some reason or other, the Shell could never recomplete the initial hole as a producer despite intensive work and for some time the field remained inactive.

Subsequently, Mohawk Oil Co. undertook exploration work but it too failed to find the pay. After a dormancy of about a year or so Dana Hogan entered the field and finished an excellent well which proved to be the first commercial producer finished in the Mountain View Field. Incidentally Hogan's initial producer was located in close proximity to several dry holes. It is rather significant to note that the topography indicates that the field should have been where the Shell and Mohawk drilled but subsequent work has proven that surface indications do not mean a thing in this field. It is interesting to record that several dry holes have been drilled north of the fault since the field was discovered, all of which goes to show that the Shell and Mohawk were not at fault in failing to discover

(Continued on Page 158)

Jenkins announces the
TWIN-BOLT GATE



Rugged...Efficient
....Low Priced

This new Fig. 40 Jenkins TWIN-BOLT Iron Body Gate Valve exactly "fills the bill" on jobs which require a good valve, but which because of their special nature make the use of "lifetime" Jenkins Bronze and Iron Body Gates something of a luxury.

While it is low priced, this new Jenkins is far from a cheap quality valve. It is well and carefully made and bears the famous "Diamond" mark . . . an assurance that it will give an extra good measure of service. Its fine features are briefly listed below. Write or ask your supply house for form No. 159 which gives full details about All-Iron and Iron Body Bronze Mounted types, in sizes to 4 inch.

FINE FEATURES: 1. Twin-Bolt design, using two easily replaceable steel bolts instead of special clamps or bolts. Easy to disassemble; prevents distortion of body. 2. Sharply tapered, reversible, double faced wedge, accurately machined. 3. Brass seat rings in bronze mounted valve. 4. Extra large capacity stuffing box nut. 5. Every valve individually tested. 6. Extra strong spindle of correct length with accurate threads. 7. Can be repacked under pressure when in open position.

JENKINS BROS., 80 White St., New York, N.Y.; 510 Main St., Bridgeport, Conn.; 524 Atlantic Ave., Boston; 133 No. Seventh St., Philadelphia; 822 Washington Blvd., Chicago, Ill.; JENKINS BROS., Limited, Montreal; London

Jenkins Valves

BRONZE—IRON—STEEL SINCE 1864

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S. T. R.	Depth	Status—
General Pet. Co., No. 13 Capitan, Santa Barbara Co.	32- 5-30	2,580	C. P. 2,510
General Pet. Co., No. 13 Capitan, Santa Barbara Co.	32- 5-30	....	bldg. rig
Shell Oil Co., No. 2 Capitan, Santa Barbara Co.	32- 5-30	3,199	cleaning out
Shell Oil Co., No. 4 Capitan, Santa Barbara Co.	5- 4-30	....	bldg. rig
Royalty Serv. Corp., No. 1 Los Alamos, Santa Barbara Co.	35- 9-32	4,500	suspended
York-Smullin, No. 2 Lompoc, Santa Barbara Co.	33- 8-34	2,387	sd. sh. drlg.
Advance Pet. Co., No. 1 Naples, Santa Barbara Co.	7- 4-29	5,475	resume work
Barnsdall-Rio Grande, No. 10-8 Elwood, Santa Barbara	tideland	....	rigged up
East Elwood Pet. Co., No. 1 Elwood, Santa Barbara Co.	14- 4-29	3,732	cmtd. 3,672
Shell Oil Co., No. 1 Goleta, Santa Barbara Co.	20- 4-28	6,295	rd. sd. drlg.
Standard Oil Co., No. 2 Goleta, Santa Barbara Co.	17- 4-28	4,850	bailing
Ortega Oil Co., No. 1 Summerland, Santa Barbara Co.	16- 4-26	4,583	cleaning out
General Pet. Co., No. 4 Rincon, Ventura Co.	tideland	....	bldg. found.
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22- 3-20	7,370	cmtd. 7,000
El Rancho Oil Co., No. 1 South Mountain, Ventura Co.	9- 3-19	....	rig, suspended
The Texas Co., No. 128 South Mountain, Ventura Co.	4- 3-19	5,430	fish D.P.
Bolsa Chica Oil Co., No. 2 Piru, Ventura Co.	4- 4-18	571	hd. sh. drlg.
Dawson Oil Co., No. 1 Simi, Ventura Co.	5- 2-17	1,876	suspended
Rancho Oil, Inc., No. 1 Ojai, Ventura Co.	14- 4-23	2,525	suspended
Continental Oil Co., No. 1 Ojai, Ventura Co.	12- 4-23	1,543	flow 750 b.d.
Prop. Service Corp., No. 1 Lloyd, Ventura Co.	24- 3-23	7,110	flow 500 b.d.
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	32- 4-21	2,300	suspended
Standard Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	961	sd. sh. drlg.
General Pet., No. 1 South Belridge, Kern Co.	30-28-21	11,277	suspended
Union Oil Co., No. 18 North Belridge, Kern Co.	36-27-20	8,523	redrlg. 8,081
Standard Oil Co., No. 1-A North Belridge, Kern Co.	36-27-20	6,790	sd. sh. drlg.
Standard Oil Co., No. 2 North Belridge, Kern Co.	36-27-20	5,871	cleaning out
Amerada Pet., No. 1 Blackwells Corner, Kern Co.	17-26-19	2,614	dry, abd.
Standard Oil Co., No. 1 Delano, Kern Co.	1-26-28	1,010	sd. sh. drlg.
Trico Oil & Gas Co., No. 1 Alpaugh, Kern Co.	3-25-23	2,525	gas, shut in
Trico Oil & Gas Co., No. 3 Alpaugh, Kern Co.	36-24-22	788	sd. sh. drlg.
Buckeye Union Oil Co., No. 2 McVan, Kern Co.	10-27-27	1,351	P.B. 1,295
Golden Bear Oil Co., No. 1 Kern Front, Kern Co.	32-27-27	....	location
Hancock Oil Co., No. 4 Mountain View, Kern Co.	14-30-28	....	rigging up
Associated Oil Co., No. 1 Mountain View, Kern Co.	3-31-29	5,431	sd. sh. drlg.
Star Pet. Corp., No. 1 Mountain View, Kern Co.	10-30-28	4,460	sd. sh. drlg.
Shell Oil Co., No. 1 Mountain View, Kern Co.	32-30-29	....	grading
Union Oil Co., No. 4 Mountain View, Kern Co.	15-30-28	5,525	redrlg. 2,200
Union Oil Co., No. 5 Mountain View, Kern Co.	15-30-28	5,474	suspended
Union Oil Co., No. 6 Mountain View, Kern Co.	9-30-28	4,591	sd. sh. drlg.
Union Oil Co., No. 7 Mountain View, Kern Co.	33-30-28	3,091	sd. sh. drlg.
General Petroleum, No. 3 Mountain View, Kern Co.	14-30-28	....	bldg. rig
The Texas Co., No. 4 Mountain View, Kern Co.	14-30-28	5,132	sd. sh. drlg.
Barnsdall, No. 3 Mountain View, Kern Co.	31-30-29	6,950	cleaning out
Hogan Pet., No. 6 Mountain View, Kern Co.	4-31-29	4,760	fish. D.P.
Standard Oil Co., No. 5 Mountain View, Kern Co.	24-30-28	....	rigging up
Ohio Oil Co., No. 1 Mountain View, Kern Co.	33-30-29	4,650	sd. sh. drlg.
National Oil Co., No. 1 Mountain View, Kern Co.	30-30-29	5,693	cmtd. 5,408
Mountain View Oil Co., No. 1 Mountain View, Kern Co.	23-30-28	4,731	sd. sh. drlg.
Gilmore-Snyder Oil Co., No. 2 Mountain View, Kern Co.	34-30-28	5,271	sd. sh. drlg.
Jergins Trust, No. 4 Edison, Kern Co.	23-30-29	2,488	P.B. 2,220
Jergins Trust, No. 5 Edison, Kern Co.	23-30-29	....	material
Consd. Crude Oil Co., No. 1 Edison, Kern Co.	17-30-29	4,530	sd. sh. drlg.
Ohio Oil Co., No. 1 Edison, Kern Co.	36-30-29	1,160	sd. sh. drlg.
Shell Oil Co., No. 4 Edison, Kern Co.	15-30-29	1,081	sd. sh. drlg.
Shell Oil Co., No. 5 Edison, Kern Co.	21-30-29	972	sd. sh. drlg.
Monterey Expl. Co., No. 6 Edison, Kern Co.	15-30-29	....	rigging up
Monterey Expl. Co., No. 7 Edison, Kern Co.	15-30-29	2,752	sd. sh. drlg.
Chaulk Oil Co., No. 1 Edison, Kern Co.	5-30-29	....	foundation
The Texas Co., No. 1 Edison, Kern Co.	4-30-29	3,518	rig to pump
Foster, Inc., No. 1 Edison, Kern Co.	8-30-29	2,481	sd. sh. drlg.
General Pet., No. 3 Edison, Kern Co.	24-30-29	....	rigging up
Surety Oil Co., No. 1 Edison, Kern Co.	32-29-29	....	rig, suspended
Petroleum Drilling Co., No. 1 Edison, Kern Co.	22-29-29	590	suspended
Signal Oil & Gas Co., No. 1 Edison, Kern Co.	31-29-30	1,870	suspended
Signal Oil & Gas Co., No. 2 Edison, Kern Co.	5-30-30	....	material
Caravel Pet. No. 1 Sivert, Kern Co.	19-30-30	1,590	rig to pump
Sea Cliff Oil Co., No. 1 Greenfield, Kern Co.	7-31-28	615	suspended
Tejon Ridge Oil Co., No. 1 Comanche, Kern Co.	23-32-29	1,582	reaming
Standard Oil Co., No. 1 Semi-Tropic, Kern Co.	8-27-23	2,496	sd. sh. drlg.
Seeple, J. O., No. 1 Elk Hills, Kern Co.	5-30-24	1,392	sd. sh. drlg.
Richfield Oil Co., No. 2 Devil's Den, Kern Co.	14-25-18	751	sd. sh. drlg.
The Texas Co., No. 1 Temblor, Kern Co.	29-29-21	3,696	br. sh. drlg.
Shell Oil Co., No. 1 Buena Vista, Kern Co.	9-32-25	3,793	sd. sh. drlg.
Reserve Oil & Gas Co., No. 1 Tejon, Kern Co.	2-10-19	530	cmtd. 575
Badger Oil Co., No. 1 Tejon, Kern Co.	31-11-19	6,348	redrlg. 4,050
Russ Oil Synd., No. 1 Dos Palos, Fresno Co.	28-13-11	4,514	suspended
Bergman, Harry, No. 1 Dos Palos, Fresno Co.	12-12-11	6,138	suspended
Union Oil Co., No. 1 Lillis-Kettleman, Fresno Co.	24-21-16	10,944	suspended
K.N.D.A., No. 56 Kettleman, Kings Co.	8-22-18	10,154	redrlg. 9,348
The Texas Co., No. 1 Coalinga, Fresno Co.	36-20-14	1,500	sd. sh. drlg.
Farrel Pet., well No. 1, San Luis Obispo Co.	18-31-12	1,432	hd. sh. drlg.
Willett Oil Co., No. 1 Cholame, San Luis Obispo Co.	10-25-15	3,805	water survey
Commonwealth Consd. Gas Co., No. 1 Tulare Lake, Kings	21-22-20	2,490	gas, shut in
Commonwealth Consd. Gas Co., No. 2 Tulare Lake, Kings	21-22-20	....	rig, suspended
Kettleman Pac. Oil Co., No. 1 Tulare Lake, Kings Co.	11-23-16	812	sd. sh. drlg.
General Pet., No. 1 Devil's Den, Kings Co.	20-24-18	....	rig, suspended
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	35-16- 1	6,774	hd. sh. drlg.
Amerada Pet., No. 1 F.L.D., San Joaquin Co.	15- 2- 5	....	material
Pure Oil Co., No. 1 Chowchilla, Madera Co.	7-10-14	8,320	fishing
Northern Counties Pet., No. 1 Tehama, Tehama Co.	25-24- 3	2,420	hd. sh. drlg.
The Texas Co., No. 1 Petrolia, Humboldt Co.	1- 3- 2	1,117	cmtd. 1,115

Michigan Proration Schedule Likely to Be Increased; Potentials Declining

By PAUL A. ELLIOTT
Staff Correspondent, Michigan Fields

MUSKEGON, Mich., Jan. 28.—Michigan proration schedule probably will be boosted in February to a minimum daily exemption of 75 bbls. per well and possibly as high as 10 per cent allowable per well above the minimum compared with a January schedule of 50 bbls. exemption and 7 per cent, it was indicated following a meeting of the Michigan Producers Proration Committee in Mount Pleasant. In the light of an increased federal allowable from 28,100 to 30,000 bbls., and increasing market demands, the new schedule is expected to be adopted at a special meeting February 1.

Pipe line runs have exceeded the new allowable by more than 1,000 bbls. for two or three weeks, averaging 31,154 bbls. a day for the week ended January 12 and 31,089 bbls. a day for the week ended January 19. January or February may witness a new production record for the State. Pure Oil Transportation Co., major crude oil producer in the State, has gradually increased its runs, particularly from the Porter Pool in Midland County, where its pipe line carrying capacity has been increased recently to 22,000 bbls. daily.

Declining Potentials

While daily runs have been increased, average daily potentials have been declining for lack of new major initial production. It is expected Porter Pool potentials will show a decline from about 125,000 bbls. on January 1 to 100,000 bbls. a day or less on February 1. Fewer and smaller new completions have been recorded in the Porter Pool during recent months, as most of the proved acreage has been drilled. While promising new developments have resulted recently in Denver and Isabella Townships of Isabella County, West Branch and Ogemaw Townships of Ogemaw County, Beaverton Township, Gladwin County, and Mount Haley Township, Midland County, none of these has yet developed big flush production wells such as those which added from 10,000 to as high as 30,000 bbls. initial weekly during the height of the Porter Pool development. The flush is off in most Porter wells, with scattering new production now confined principally to smaller pumpers, and many of the former big producers of 1934 being placed on the pump. Deduction for b.s. and water will be reduced from 3 to 2 per cent February 1 in crude runs by the Pure Oil Transportation Co., it was announced by David E. Beach, general manager, a saving of 1 per cent to producers. Simrall Pipe Line Co. has maintained a 2 per cent deduction schedule for some time and will make no change.

Pool Plan

A special meeting last week was called following consternation over announcement that only 28 new wells would be allowed in the Ogemaw County area in 1935. Operators were reassured when they found the order affected only the original Weber-Wilcox territory in West Branch Township, Ogemaw County. Two other territories, northwest and southeast of the Weber-Wilcox wells, have since been opened for considerable Dundee production and are the areas now being considered for drilling plans.

Only two drilling plans have been approved for Michigan, one covering development in Home Township, Montcalm County, where there is little drilling activity at present, and the other covering the Weber-Wilcox Pool. A drilling plan for Gladwin County in the vicinity of the Beaverton Township wildcat brought in several months ago by W. F. Whitehill, of Washington, Pa., also is expected to be presented to Washington authorities as soon as further drilling operations indicate the possibility of a new pool of commercial size.

Two new tests are now drilling, one 2 miles northeast of Mr. Whitehill's discovery, No. 1 Omar Kintner, in Section 11, Beaverton Township, and another several miles southeast. Roosevelt Oil Co.'s No. 1 Arnold Haviland, SE NE SE Section 4-17n-2w, Beaverton Township, is driving pipe at more than 240 feet, and Sun Oil Co.'s No. 1 Mary A. Hines, C NW NE Section 31-17n-1w, Tobacco Township, Gladwin County, is reported drilling at more than 400 feet. Mr. Whitehill also is rigging up for No. 1 George Spicer, N SW NW Section 11, Beaverton Township, south offset to the discovery.

Field Operations

Operations of the past week added eight small Dundee oil producers, one gasser and one dry hole with three other oil wells being completed in the Dundee and a large number nearing completion. New oil wells were completed in five townships including two in Porter and one in Greendale of Midland County, two in Denver and one in Isabella of Isabella County, and two in West Branch Township, Ogemaw County, while the single gasser was completed in the Michigan Stray sands in Vernon Township, Isabella County and the one dry hole was in Denver-Isabella. Three others drilled into the Dundee oil pay sands but not yet completed were in Denver, Isabella and West Branch Townships, respectively.

Total initial of the eight new oil wells, most of which have yet to be treated with acid, was 725 bbls., while the one gasser had an open flow capacity of 1,500,000 feet a day. The "duster" was drilled through the Dundee.

Ogemaw County

Highest new oil production was made by the two new Dundee wells in West Branch Township, Ogemaw County, one being rated at 200 bbls. and the other at 150 bbls. a day. William Kerr and associates completed No. 1 C. and G. Finnerty, SE NE SE Section 19-22n-3e, on a town lot in the outskirts of the village of West Branch, for 200 bbls. a day in the Dundee topped at 2,581 feet and drilled to 2,731 feet. M. J. Ingold's No. 1 Gustave and Margaret Hobohm and Erna Wheeler, NE NW NW Section 29, same township, made 90 bbls. in 10 hours after treatment and was rated at 150 bbls. a day. Dundee limestone was topped at 2,569 feet and the well drilled to 2,741 feet.

W. J. Sovereign's No. 1 Golf Club, SE SW SW Section 20, West Branch, had about 1,000 feet of oil in the hole and was to be deepened and treated before completion as a probable commercial Dundee well. Theodore Oil Co.'s No. 1 Ogemaw Country Club, a former upper Traverse producer, also was still completing in the Dundee in Section 20. Two other West Branch tests nearest completion in the Dundee were Muskegon Development Co.'s No. 1 Cora F. Barber, SW SW NW Section 28, and McClanahan Oil Co.'s No. 2 O. A. Guilford, NW NE NW Section 29, which ran casing at 2,564 feet.

Isabella County

Two new Dundee wells in Denver Township, Isabella County, added 235 bbls. initial. Larger was Mammoth Petroleum Corp.'s No. 1 B. E. Johnston, NE NE NW Section 33-15n-3w, which topped the Dundee at 3,573 feet and drilled to 3,615 feet for 175 bbls. natural. It will be treated. Jackson-Meyer Syndicate's No. 1 Hughes, SW SE NE Section 19, same township, swabbed 60 bbls. at 3,655 feet and will be treated. Gordon Oil Co.'s No. 1 John Demski, SW NW SE Section 28, was dry, plugged and abandoned at 3,628 feet, while McClanahan Oil Co.'s No. 1 B. Wonsey, Section 33, was completing in the Dundee after treatment with initial flow yet undetermined though expected to make a commercial well.

Isabella Township

Wittmer Co.'s No. 1 Durl Phillips, C W half NE NW Section 13-15n-4w, made 40 bbls. natural topping Dundee at 3,640 feet and drilling to 3,686 feet. Same company's No. 1 Malcolm McCloud, W half SE Section 12, made 10 bbls. natural and was treating. Michigan Gas & Oil Co. sold the undrilled 50 acres of the Marthey lease in Section 19, Denver Township, to Morris Oil & Gas Corp., which will likely result in several more tests on the lease.

Vernon Township

Robert W. Atha, drilling contractor, completed Stewart-Atha Interests' No. 1 John A. McDonald, C NW SE Section 25-16n-4w, Vernon Township, Isabella County, as a 1,500,000-foot gasser in the Michigan Stray sands topped at 1,300 feet and drilled to 1,302 feet. Two other wells nearest completion in Isabella County were Pen-Yan Investment Co.'s No. 1 A. E. Ackerman, SW NW NW Section 12, Vernon Township, drilling at 2,700 feet, and Wittmer Co.'s No. 1 Hugh McLachlen, SE SE SE Section 13, Isabella Township, is drilling below 3,070 feet. Twenty-two other Isabella County tests were in varied stages of development.

Midland County

Two small oil wells added 100 bbls. initial in Porter and Greendale Townships, Midland County, completions last week. Carter Lease, Inc.'s No. 5 William Maywood Carter, SE NE SW Section 18-13n-1w, Porter Township, was good for about 75 bbls. a day natural in the Dundee pay sands and was to be treated. Leonard Drilling Co. brought in Mon-Mar Oil Corp.'s No. 1 Emmett Scott, SE SW NE Section 8-14n-2w, Greendale Township, as a 25-bbl. natural well topping the Dundee at 3,506 feet and drilling to 3,577 feet, total depth. It will be treated.

Two other Midland County tests, one in each of two townships, also were nearing completion. Pure Oil Co.'s No. 18 Mina Naramore, SE SW SW Section 15, Porter Township, was drilling in the Dundee and to be treated as a probable small producer. John Martin's No. 1 R. Greene, NE NE NE Section 13-13n-2w, Jasper Township, also was nearing completion in the Dundee. Half a dozen other Porter tests were drilling in or near the

(Continued on Page 154)

A Turn for the Better!

WHEN you turn to welding with Tube-Turns*, you've reached the ultimate in piping. Lighter, stronger, neater. Usually cheaper. Always better because the entire piping system is uniform, like one continuous piece . . . . That's a condition you can get ONLY with Tube-Turns and welding.

TUBE-TURNS

* The word "Tube-Turns" is NOT a general name for welding fittings. Tube-Turns are THE seamless fittings having uniform wall-thickness at all points, true circular cross-section, uniform radius of curvature and smooth inner walls. Made ONLY by Tube-Turns, Incorporated, 403 Herald-Post Bldg., Louisville, Ky.

El Dorado, Union County, Test May Open Pool; Second Test Near Camden, Ouachita County

By J. R CRUMPTON
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Jan. 28.—Due to heavy rains followed by snow and near zero weather, drilling activity in the North Louisiana and Arkansas districts of this division were at practically a standstill during the greater part of the past week. The Rainbow Field in Union County, Arkansas, failed to list a producer from the lower red bed series for the first time in several weeks, but a possible second producer in a recently discovered shallow pool west of Camden in Ouachita County is holding interest in that area. A test 6 miles southeast of El Dorado with all the earmarks of making an oil well is sharing interest with other operations in Union County.

ARKANSAS

Five miles west of Camden, Ouachita County, T. J. Gaughan's No. 2 M. Bragg, Section 25-13-18, is reported to have cored a likely looking oil sand around 1,332 feet. The test is an offset to the north of the same operator's No. 1 Bragg, recently brought in as a 50-bbl. pumper of 17.3 gravity oil from 1,369 feet. A recent offset test to the discovery well in this area failed to pick up a sand at the shallow depth and was drilled to 2,500 feet. It is understood Reynolds and others have made arrangements to take over this well, listed originally as T. J. Gaughan's No. 1 Cartier, and will plug the hole back to the original shallow pay horizon. Jack Carnes has resumed drilling on two tests in Ouachita County. He has set 10-inch surface casing at 102 feet on his No. 1 Caldwell, Section 12-14-19, about 7 miles west and south of the two Bragg wells in the new producing area. The same operator's No. 1 Highsmith is near the Bragg wells in Section 25-13-18.

Possibility of a good flowing well 6 miles southeast of El Dorado, opening a new pool, looms as the Reuter Oil Co. is testing its No. 2 Vines in Section 29-18-14. Six-inch casing was set at 2,154 feet and 9 feet of rich oil sand was cored to a total depth of 2,184 feet. The well was swabbed several days ago and is reported to have had a good showing of 38 gravity oil. Top of the Nacatoch sand was contacted at 2,154 feet with 4 feet of cap rock carrying gas followed by the oil sand and sandy shale carrying oil. The well is the third test drilled by this company in that area, both of the former wells reporting shows of oil. The area is about 5 miles east of the South Field and 4 miles south of what is known as the Grimes area and is considered as a new shallow pool rather than an extension of any old producing areas because several dry holes have been drilled between the structure and old production.

Wildcat Failure

Lovett and Darwin's No. 1 James Boyd, Section 17-13-17, about 1½ miles northeast of the Gaughan area, failed to pick up the shallow producing sand and was abandoned as dry at 1,482 feet. The Arkansas district reported one other wildcat failure, P. J. McMurray's No. 2 Calion Lumber Co., Section 33-15-14, Calhoun County, salt water and abandoned at 3,393 feet. Drilling activity in the Rainbow Field was slowed down to a minimum due to the excessive cold weather. Operations of some of the wells in this area follow: J. E. Crosbie, Inc.'s No. 1-B W. E. Gregory stands temporarily abandoned at 3,503 feet after testing salt water at 3,498 feet; Alice-Sidney Oil Co.'s No. 9 E. F. Gregory, Section 11-17-14, drilling 2,559 feet; Duran Development Co.'s No. 1 H. Ezzell, Section 13-17-15, shut down at 2,851 feet; H. L. Hunt, Inc.'s No. 15 E. F. Gregory, Section 10-17-14, drilling hard lime at 3,822 feet and the same operator's No. 1 J. D. Gregory developed a small show of gas on drill stem test from 3,305-41 feet; T. L. James' No. 1 E. F. Gregory, Section 10-17-14, tested 3,100 feet of oil and a small amount of salt water from 3,370-95 feet; Lion Oil Refining Co.'s No. 6 H. L. Rowland, Section 15-17-14, is shut down waiting orders at 3,427 feet and its No. 7 Rowland, same section, stands temporarily abandoned at 3,382 feet; C. E. Murdock's No. 7 J. M. Gregory, Section 10-17-14, cored 3 feet of sand from 3,315-18 feet and has set 7-inch casing at 3,312 feet.

NORTH LOUISIANA

This district reported only two completions, both in Caddo Parish. M. Rodgers' No. 4 Muslow, Section 4-20-15, is pumping 35 bbls. daily from 2,145 feet. Leonard Co.'s No. 4 S. P. Harrell, Section 2-21-16, was abandoned as a salt water well at 1,075 feet. A number of wells in old proven areas of several North Louisiana parishes hit the pay sand during the week and are waiting on standard rig to pump. In Caddo Parish, Press & Lambert's No. 1 Lane & Simon, Section 10-20-15, in J. I. Roberts Drilling Co.'s No. 1 Lane and Simon, same section, have all the earmarks of being good pumpers. Tooke & Reynolds' No. 1 Levey, Section 16-20-15, has an estimated flow of 1,000,000 feet of gas and a spray of oil from 2,210 feet. Two-inch tubing will be run in the well for further testing. In the Urania Field, La Salle Parish, Fred Graham's No. 1 Urania Lumber Co., Section 18-10-2e, is rigging up to pump from 1,521 feet.

Gas Locations

Two Trinity gas locations were staked in separate fields in the North Louisiana district. Arkansas-Louisiana Gas Co., formerly operating as the Louisiana-Arkansas Pipe Line Co., a subsidiary of Cities Service, staked location for its No. 1 R. O. Roy, Section 18-17-11, in the Sligo Field, Bossier Parish. In the Rodessa Field, northwestern Caddo Parish, the same company will spud in shortly on its No. 2 Rodessa Oil & Land Co. in Section 23-23-16. Its No. 1 well in this area was brought in as a good gasser several months ago and extended the Rodessa Field 1½ miles northeast, and the present test is about one-fourth of a mile beyond the proven limits. It is reported that the Arkansas-Louisiana Gas Co. has quite an extensive program of development mapped out in the Sligo and Rodessa gas fields during the next few months. The company recently completed the installation of new units of its natural gasoline plant at Rodessa which will increase the capacity of the plant to 25,000,000 feet of gas and 20,000 gallons of gasoline daily. The plant formerly had a capacity of 15,000,000 feet of gas and 10,000 gallons of gasoline daily. The gas in the Rodessa Field, as well as Sligo, has a high gasoline content, running in the former as high as 2,000 gallons per 1,000,000 feet.

The United Gas Public Service Co., which owns all but two of the 17 gas wells in the Rodessa Field, is also planning to drill several new wells in that area. This company recently had a seismographic crew working southwest of the field in Cass County, East Texas. The Pure Oil Co. is also reported to have had a crew working in parts of Cass and Marion Counties. One gas well, an extension of the Rodessa Field, Caddo Parish, has been drilled in Cass County, and considerable interest has been shown in recent weeks in the eastern and southern part of this area.

It is also reported that several operators and a major company are planning construction of a carbon black plant in the Sligo Field, Bossier Parish, and will possibly drill several wells to supply the plant with gas. The Sligo Field produces from various sands from the 900-foot level to the Trinity around 4,300 feet.

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

BIENVILLE PARISH

M. V. Duncan et al's No. 1 Hutton, 400 ft. S, 330 ft. E, NW cor. Sec. 4-18-7.
Drlg. 2,740 ft.
Saline Drlg. Co.'s No. 1 Pardee, Sec. 27-14-6.
S.D. 2,670 ft.

BOSSIER PARISH

Howard & Baird's No. 1 Gold, 150 ft. S and E, NW cor. Sec. 36-20-13.
S.D. 1,126 ft.
W. A. Kirkland's No. 1 Jarrett & McKeller, 330 ft. N and W, S cor. NW NW Sec. 2-21-13.
Set 10-in. 43 ft.
Leonard Co.'s No. 1 Pearson, 250 ft. S and E, of C Sec. 22-21-14.
S.D. for fuel 2,408 ft.
Scott & Howard's No. 1 Sherrill, Sec. 13-19-12.
Partly rigged up and S.D.
R. L. Skidmore et al's No. 1 Davis, Sec. 12-18-13.
S.D. 1,015 ft.

CADDO PARISH

W. T. Bell et al's No. 1 Bostick, 1,320 ft. E, 660 ft. N, SW cor. Sec. 12-22-16.
S.D. 2,540 ft.
Burkett O. & G. Co.'s No. 1 Lindholm, 400 ft. S and E, NW cor. NE SE Sec. 16-17-14.
S.D. 1,046 ft., repairing rig.
A. D. King, tr.'s No. 1 Roach, 641 ft. E, 375 ft. N, SW cor. SE Sec. 4-14-16.
S.D. 3,128 ft.
M. Rodgers' No. 4 Muslow, 1,495 ft. S, 1,270 ft. W, C Sec. 4-20-15.
Comp.; pumping 35 bbls., 2,145 ft.
Shreveport Oil Corp.'s No. 4-C Muslow, 1,720 ft. E, 100 ft. N, SW cor. Sec. 4-20-15.
Drlg. 2,100 ft.
Leonard Co.'s No. 4 S. P. Harrell, 220 ft. N and W, SE cor. NW SW Sec. 2-21-16.
S.W. and abd. 1,075 ft.
Set 5 5/16-in., 1,070 ft.
Tooke & Reynolds' No. 1 Levy, 330 ft. N and W, SE cor. NE Sec. 16-20-15.
Testing 2,210 ft.
Tooke & Reynolds' No. 2 Levy, 300 ft. S and E, NW cor. SE NE Sec. 16-20-15.
Derrick pattern.
J. I. Roberts Drlg. Co.'s No. 1 Lane & Simon, 480 ft. E, 150 ft. S, NW cor. SW Sec. 15-20-15.
W.O.S.R. 2,200 ft.
Press & Lambert's No. 1 Lane & Simon, 166 ft. S, 1,134 ft. E, NW cor. SW Sec. 15-20-15.
W.O.S.R. 2,196 ft.

CATAHOULA PARISH

T. R. Hincy's No. 1 La. Central Lbr. Co., Sec. 32-9-6e.
S.D. for D.S. 1,541 ft.

DESOTO PARISH

Bayou Pierre Oil Co.'s No. 1 B. Y. Wemple, C SE NE SW Sec. 14-12-11.
W.O.S.R. 2,731 ft.
Century O. & Drlg. Co.'s No. 1 Morton, 300 ft. N and E SW cor. SE NE Sec. 27-11-14.
S.D. 2,612 ft.
Dempsey & Manziel's No. 1 Thigpen, 375 ft. S, 330 ft. W, NE cor. SW NE Sec. 33-13-13.
Testing 1,745 ft.
DeSoto Pet. Co.'s No. 1 B. Y. Wemple, C S½ SE NE SW Sec. 14-12-11.
S.D. 2,673 ft.
E. L. Foster's No. 1 Youngblood, Sec. 9-11-14.
S.D. 1,530 ft.
Bailey Gaunce's No. 2 B. F. Jenkins, Sec. 25-13-12; O.W.D.D.
Drlg. 2,023 ft.
Leslie Prod. Co.'s No. 1 Ramsey, 150 ft. N and W of C Sec. 36-11-11.
Rigging up.
Ben F. Smith's No. 1 Bonds, 200 ft. E, 500 ft. N, SW cor. Sec. 22-12-11.
S.D. 2,749 ft.
National Oils, Inc.'s No. 1 B. Y. Wemple, NW SW Sec. 14-12-11.
S.D. 120 ft.

EAST CARROLL PARISH

Century Oil & Drlg. Co.'s No. 1 Olive Dell, 660 ft. S, 300 ft. W, NE cor. Sec. 56-21-21e.
S.D. 150 ft.

LA SALLE PARISH

J. B. Collins, tr.'s No. 2 Urania, Sec. 7-10-2e.
Set 7-in. 1,520 ft.
Fred Graham's No. 1 Urania, 300 ft. N, 150 ft. E, SW cor. SW NW Sec. 18-10-2e.
W.O.S.R. 1,521 ft.
F. A. Trichello's No. 1 Urania, Sec. 3-9-1e.
Reaming to bottom 1,521 ft.

NATCHITOCHES PARISH

Clyde Crichton's No. 1 Friedman Est., 406 ft. N, 428 ft. E, SW cor. Sec. 52-7-6.
S.D. 2,095 ft.
Jack Lent's No. 1 Brown Lbr. Co., 400 ft. S, 300 ft. E, NW cor. NE SW Sec. 27-9-13.
T.A. 2,470 ft.; old T.D. 3,002 ft.
Missouri Drlg. Co.'s No. 1 Brown Lbr. Co., 400 ft. N, 330 ft. W, SE cor. Sec. 5-10-10.
S.D. 1,032 ft.
Roy A. Raines et al's No. 1 Raines est., 330 ft. N and E, SW cor. Sec. 8-9-10.
S.D. 2,150 ft.

OUACHITA PARISH

Hatcher & Evans' No. 11 fee, 2,065 ft. S, 3,394 ft. E, NW cor. Sec. 17, in Sec. 41-19-4e.
Set 12-in. 156 ft.; set 8-in. 870 ft.

RAPIDES PARISH

C. D. Loe, trustee's No. 1 Baird Est., SE cor. Sec. 40-5n-1w.
Rigged up and S.D.

RED RIVER PARISH

Sterling O. & R. Co.'s No. 1 Long Bell, 150 ft. N and W, SE cor. NE SE Sec. 19-13-9.
S.D.; changing rigs, 1,104 ft.
Windsor Oil Co.'s No. 3 Jenkins, 1,905 ft. E, 660 ft. N, SW cor. Sec. 11-12-11.
S.D. 2,787 ft.

SABINE PARISH

H. J. Brothers et al's No. 1 Edwards, 300 ft. S and W, NE cor. SW NW Sec. 29-9-13.
Pumped off; S.D.; W.O. 1,857 ft.
R. B. Campbell et al's No. 1 Cook Land Co., 150 ft. N, 300 ft. W, SE cor. NW NW S.D. 2,130 ft.
Helena Oil & Gas Co.'s No. 1-B Graham, 330 ft. S and W NE cor. NE NW Sec. 20-9-13.
S.D. 2,000 ft.
Lawson-Leavell's No. 1 Whitney Corp., 330 ft. N and E, SW cor. NE SW Sec. 5-9-13.
Whipstocking 2,742 ft.
Jack Lent's No. 1 Williams, Sec. 13-7-11.
Set 10-in. 62 ft.; S.D. 440 ft.
Dr. O. B. Hicks' No. 1 Neal, SE SW SE Sec. 18-9-12.
Set 10-in. 40 ft.
Strickland et al's No. 1 Whitney Corp., Sec. 32-10-12.
Set 8-in. 1,445 ft.; T.D. 1,448 ft.

TENSAS PARISH

Schumacher, tr.'s No. 1 Curry, Sec. 39-11-12e.
Arranging to deepen 3,750 ft.

ARKANSAS

ARKANSAS COUNTY

Grand Prairie Realty Co.'s No. 1 Fischer, 200 ft. S and E, NW cor. NE NW Sec. 6-6s-4w.
Cmtd. bottom of hole, 1,724 ft.

ASHLEY COUNTY

J. D. Houseman et al's No. 1 Boreine

(Continued on Page 156)

Crude Production

Estimated daily crude production for the week ending January 19, follows:

NORTH LOUISIANA

	Bbls.
Bellevue	485
Caddo, light	4,775
Caddo, heavy	1,635
Converse	1,200
Cotton Valley	475
DeSoto and Red River	1,460
Elm Grove	340
Haynesville	3,680
Holly	170
Homer	2,655
Pleasant Hill	195
Sarepta-Carterville	580
Urania	3,240
Zwolle	2,295
Total	23,185

SOUTH ARKANSAS

Champagnolle	3,250
El Dorado	2,225
Lisbon	345
Miller County	1,125
Nevada	930
Smackover, light	2,290
Smackover, heavy	10,375
Stephens	570
Urbana	2,265
Total	21,385

Two Outside Wells in Cooper Pool, New Mexico, Had Gas Blowouts and Went Out of Control

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Jan. 28.—Two wells in the Cooper Pool in New Mexico, Humble Oil & Refining Co.'s No. 3 Cooper, and Simms Oil Co.'s No. 1 Woolworth, located 2½ miles apart at the north and south ends, had gas blowouts and went wild, one being estimated at 75,000,000 feet a day and the other at 80,000,000 feet. The Amerada Petroleum Corp.'s No. 1-D State, a wildcat 7 miles north of the Eunice Pool, made 7,000,000 feet of gas in a drill stem test at 3,255 feet. Gypsy Oil Co.'s No. 2 Bell-State, in the Eunice Pool, was completed for 690 bbls. a day and the Tide Water Oil Co.'s No. 4 Coleman made 496 bbls. the first 24 hours after plugging back. One new location was staked in this pool by the Continental Oil Co. Repollo Oil Co.'s No. 2 Hanagan was completed in the Jal Pool for 275 bbls. in two and one-half hours. The Texas Co. staked a location for its No. 1 Parker, the most southerly well in the Jal Field and 1 mile north of the Texas boundary. The Maljamar Oil & Gas Co.'s No. 4 Baish, an important extension of the Maljamar Pool, is estimated at 150 to 250 bbls. a day. Wildcatting in the Lea area is on the increase with two more locations. The Texas Co.'s No. 1 Elliott, in this area, was plugged and abandoned. Location was made for a wildcat in the Seven Rivers district in Eddy County. Continental Oil Co. is starting a flank test on the Rattlesnake Dome in San Juan County.

Colorado operators hear that Washington will extend prospecting permits as usual. Riddle Petroleum Co.'s 9,000-foot test near Denver is expected to spud in February.

Wyoming had no completions or new locations.

In spite of the cold weather in Montana, which is causing most of the drilling wells to shut down, two new locations were made in the Cut Bank Field.

NEW MEXICO

Cooper Area—Lea County

Two gas blowouts, both outside wells, one on the northeastern edge of the development and the other on the southeastern edge, were features of tthe week's news in the Cooper Pool. Both wells were blowing wild at last reports while attempts were being made to bring them under control.

Humble Oil & Refining Co.'s No. 3 Cooper, C SW SE Section 14-24-36, which showed sulphur water and salt water or tested dry in upper horizons, was deepened to 4,194 feet. A drill stem test at 4,098-4,194 feet showed 1,500 feet of sulphur water in 30 minutes. It was plugged back to 4,184 feet in an attempt to shut off the water. After standing for two days the master gate suddenly blew out and the well went wild. The gas is estimated at 75,000,000 feet a day. A test at 3,485-3,570 feet failed to show any oil, gas or water. It was then deepened and a test at 3,594-3,697 feet showed 270 feet of mud and 1,260 feet of sulphur water. Again it was deepened and at 3,709-88 feet yielded 51 joints of water and no oil or gas. At 3,788-3,907 feet it made 38 joints of salt water and at 4,000-4,100 tested dry.

Simms Oil Co.'s No. 1 Woolworth, C SE NE Section 35-24-36, 2½ miles south of the Humble well, was fishing for drill stem at 3,406 feet, total depth, when a blowout occurred. It was still blowing at last reports and was estimated making 80,000,000 feet of gas a day.

The Texas Co.'s No. 2 Ogg, C NW NE Section 35-24-36, is a near completion at 3,472 feet. A drill stem test at 3,440-67 feet showed for 10 bbls. an hour and another at 3,467-72 feet made 23 bbls. an hour and 4,500,000 feet of gas. The 7-inch then was cemented at 3,457 feet with 200 sacks and it is waiting. Same company's No. 3 Ogg, C SW NW Section 35-24-36, is coring in lime at 3,409 feet, and its No. 4 Ogg, C NW NW Section 35-24-36, spudded and shut down. Same company's No. 5 Ogg, C NW SE Section 35-24-36, is rigged and ready to spud.

Humble Oil & Refining Co.'s No. 1 Coats, C NW NE Section 10-24-36, is shut down at 3,355 feet waiting for drilling of relief well. Its No. 2 Coats, 400 feet west of No. 1, the relief well, is building rig. Phillips Petroleum Co.'s No. 11 Woolworth, C SE NW Section 26-24-36, began spudding January 13, set the 12½-inch at 213 feet with 150 sacks and is drilling at 214 feet, and its No. 12 Woolworth, C NE SW Section 26-24-36, is rigged and ready to spud. The Amerada Petroleum Corp.'s No. 2 Everett, C SE SW Section 26-24-36, is moving in rotary tools. Continental Oil Co.'s No. 15-A Vaughn-2, C SW SE Section 15-24-36, is still a location. Its No. 15-A Vaughn-1, C SE SE Section 15-24-36, is waiting after cementing the 7⅝-inch on bottom at 1,687 feet with 500 sacks, and its No. 14-A Vaughn-1, C W SW Section 14-24-36, is drilling at 1,520 feet in salt. Same company's No. 14-A Vaughn-2, C SE SW Section 14-24-36, began spudding January 9, set the 10¾-inch at 242 feet with 140 sacks and is drilling at 1,338 feet in red beds. Stanolind Oil & Gas Gas Co.'s No. A-4 Meyers, C NE SW Section 22-24-36, had a flow of 25,000,000 feet a day of gas with sulphur water at 3,600 feet, total depth, and is shut down for orders. It had a show of oil at 3,598-3,600 feet. Same company's No. 5-A Meyers, C NW NE Section 22-24-36, is coring in lime at 3,525 feet.

Eunice Area

An important wildcat drilling 7 miles north of the Eunice Pool in the Amerada Petroleum Corp.'s No. 1-D State, C NW NW Section 1-20-36, is showing up favorably and attracting considerable attention. It is bottomed at 3,255 feet in lime and in a drill stem test at 3,210-55 feet made 7,000,000 feet of dry gas and in a second test at 3,170-3,255 feet made 6,800,000 feet. It is preparing to drill deeper. The wildcat is on a high on the Eunice trend located by the Geophysical Research Corp. and confirmed by the company's own geological staff. The elevation of the well is 3,590 feet and it had the top of the brown lime at 2,632 feet.

Two completions and one new location were reported in the Eunice Pool. Gypsy Oil Co.'s No. 2 Bell-State, C SE SE Section 8-21-36, an east offset to its No. 1 Bell-State, flowed at the rate of 690 bbls. a day with 350,000 feet of gas, after acidizing with 2,000 gallons, at a total depth of 3,916 feet. Previous to treating it made 228 bbls. first 24 hours and 99 bbls. in the second period.

Tide Water Oil Co.'s No. 4 Coleman, C SE NE Section 17-21-36, which was drilled to 3,943 feet and gauged 1,500 bbls. of fluid, of which 50 per cent was water, was plugged back to 3,915 feet and completed. After treating with 1,500 gallons of acid, it made 496 bbls. of oil first 24 hours with 300,000 feet of gas. The 7-inch was set at 3,836 feet. The pay was at 3,860-3,915 feet and the elevation is 3,627 feet.

New Location

The new location is in the Eunice Pool, the Continental Oil Co.'s No. 9-B Meyers-2, C SE NW Section 9-21-35, a south offset to the same company's No. 1-B Meyers.

Peerless Oil & Gas Co.'s No. 1 State, C NW SW Section 29-21-36, on the southeastern edge, proved disappointing and is shut down for orders at 3,974 feet. It was treated with 4,000 gallons of acid which failed to improve conditions. It swabbed 400 bbls. of fluid, of which 50 per cent was water. It swabbed the same quantity of fluid before treating, of which 35 per cent was water.

Shell Petroleum Corp.'s No. 1-A State (formerly No. 1 State-Endura), C SE NE Section 12-21-35, 1½ miles west of the nearest producer, which swabbed dry at 3,959 feet, was deepened to 4,000 feet, where it swabbed 2½ bbls. of fluid in one hour, of which 20 per cent was water. It is bailing 12 bailers of water per hour from 900 feet off bottom. It will plug back.

Atlantic Oil Co.'s No. 1-F State, C SW SW Section 29-21-36 (one location south of the Peerless well), which swabbed water at 3,977 feet after acidizing, was plugged back to 3,968 feet and shot with 125 quarts of nitro at 3,800-63 feet. It then swabbed 5 bbls. of fluid per hour of which 50 per cent was water. It is waiting after treating with 5,000 gallons. The Atlantic's No. 1-C State, C SW SE Section 5-21-36, set the 15½-inch at 72 feet with 500 sacks and is waiting for rotary. Same company's No. 1-D State, C NW SE Section 20-21-36, is still a location.

Gypsy Oil Co.'s No. 3 Bell-Ramsey, C SW SW Section 9-21-36, is rigging up rotary, and its No. 1 Houston, C SE SE Section 7-21-36, cemented the 13⅜-inch at 364 feet with 250 sacks and is drilling at 958 feet in red beds. Shell Petroleum Corp.'s No. 1-B State, C NW NW Section 29-21-36, is drilling at 2,930 feet in anhydrite. The Tide Water Oil Co.'s No. 3 State-Foster, C NW NE Section 8-21-36, is drilling at 3,286 feet in lime.

Continental Oil Co.'s No. 30-A Lockhart-1, C SE NE Section 30-21-36, is waiting after cementing the 5½-inch at 3,885 feet with 500 sacks. Total depth is 3,900 feet. Same company's No. 18-A Meyers-1, C NE NE Section 18-21-36, is waiting after cementing the 7⅝-inch at 1,610 feet, in anhydrite, with 300 sacks. Continental's No. 8-A Meyers-1, C SW SW Section 8-21-36, plugged back from 2,655 feet to 1,950 feet to straighten

South Turner Valley Well Is Taking 75 Barrels of High Grade Light Crude

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Jan. 26.—In South Turner Valley, Spooner Oils' No. 5 Anaconda, LSD 1, Section 28-18-2w5, is more than 800 feet in the lime at 6,314 feet. It is taking about 75 bbls. a day of high grade light crude from the brown sand of the Dalhousie and has around 4,000,000 feet of wet gas from the lime. Further west in the same section, Carleton Royalties' No. 1, LSD 2, frozen in the lower porous horizon of the lime, is thawing somewhat and has increased production to around 120 bbls. a day.

Director Royalties' No. 1 LSD 16, same section, is making about 110 bbls. a day from the lime at 5,070 feet. Pacalta Oils' No. 1, LSD 7, in the lime at 5,550 feet, is building up pressure and blowing down to force the drilling fluid out of the porous sand, before testing production. It has around 5,000,000 feet of wet gas and looks like a fair producer.

In the same section, Publix Oil & Gas Co.'s No. 1, LSD 8, is in the belemnites below 4,845 feet and getting closer to the lime. Renfrew Royalties' No. 1, Morris & Goodfellow, LSD 3, same section, is preparing to run 10-inch casing to 4,410 feet. British Dominion Oil & Development Corp.'s No. 4, LSD 6, is drilling below 4,530 feet after getting through the red beds.

In the far south, Union-Freehold Oil Corp.'s No. 1, LSD 8, Section 21-18-2w5, is below 4,990 feet and getting close to the Home sand. The other tests started in Section 21 are all shut down and are not likely to resume until the Union-Freehold gets production. On the east side, Merland Oil Co.'s No. 2, LSD 13, Section 27-20-3w5, is below 2,810 feet and running 13⅝-inch casing.

In the North Turner Valley, Royalite Oil Co.'s No. 26, LSD 5, Section 23-20-3w5, offsetting Model Oils' No. 1 producer, is below 1,278 feet.

Drilling operations not merely in Turner Valley but throughout Alberta have been hampered by severe cold weather. In the Turner Valley Field, the thermometer has been running between 30 and 40 degrees below, and a record low mark of 54 below has been reported. Despite the terrific cold, most of the drilling crews continued work at the active wells, naphtha and gas production were not interrupted, and the gasoline absorption and scrubbing plants operated as usual. Bad roads interfered with the hauling of casing and materials.

Vermilion Gas Test

In the Vermilion district, northeast of Wainwright and Kinsella Fields, Tenwell Gas & Oil Co.'s No. 1, LSD 9, Section 36-50-7w4, has derrick practically complete. The test, which is for gas to supply the town of Vermilion, is expected to spud early in February.

Test at Cardston

In the Cardston district, southern Alberta, Franco Oils' No. 1, LSD 6, Section 5-3-25w4, is below 1,900 feet and checking closely with the geology of Dr. F. F. Hintze of Salt Lake City, who made the location.

Tests in the Foothills

On the Rickert structure west of South Turner Valley, Paramount Oils' No. 1, LSD 2, Section 28-18-4w5, is below 3,553 feet.

On the Highwood-Sinclair structure south of Turner Valley, Canadian Royalties' No. 1 Banner, LSD 6, Section 34-

(Continued on Page 144)

If Pressure Drops » » »

Flow will STOP *altogether*

C-F Back-Pressure or Check-Pressure Regulator

A HEALTHY pressure or none, must be the aim in some uses of gas. It may be that a well needs to be protected from depletion, or that gas needs to be kept at higher pressure in one part of a line or system than in other parts. Set the *Fulton Back-Pressure or Check-Pressure Regulator* for any desired minimum, and gas will flow only while pressure on the inlet side remains above that minimum. When pressure drops it will no longer hold the valve open against the weights imposed; and therefore flow ceases.

C-F regulators have been known as the best for over forty years. Correspondence is invited concerning any requirement of pressure control for gas, oil, steam, water, etc. Circular on request.

CF

The Chaplin-Fulton Manufacturing Co.

28-40 Penn Avenue Pittsburgh, Pa.

REPRESENTATIVES:

WESTCOTT & GREIS, Inc. *Sales and Service* Dallas—Tulsa

C. H. COLLINS 628 Dwight Bldg. Kansas City, Mo.

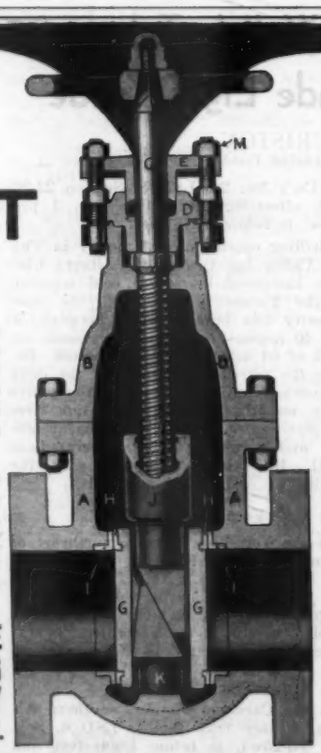
HIMELBLAU, BYFIELD & CO. 228 N. LaSalle St. Chicago, Ill.

Or any Jobber

The **HEART OF IT**

The heart of a valve is its gate mechanism. The simple rugged Ludlow principle of wedging which has become the most widely used method known today is the reason for Ludlow reliability.

All Ludlow gate valves, for all types of service, employ this proven principle. We believe it to be the major reason for their satisfactory performance under the most severe service conditions.



The LUDLOW VALVE MANUFACTURING COMPANY TROY, N. Y.

LUDLOW

hole and is redrilling at 2,225 feet. Hole was 9 degrees off. The Skelly Oil Co.'s No. 1-C State, C NE NW Section 29-21-36, is drilling at 3,740 feet in lime, and the General Crude Oil Co.'s No. 1 State, C NW SW Section 32-21-36, is rigging up rotary to resume at 70 feet. Repollo Oil Co.'s No. 1 Adkins, NW cor. SE Section 9-21-36, has rig up.

Jal Area

Repollo Oil Co.'s No. 2 Hanagan, NE cor. SW Section 12-25-36, was completed at 3,347 feet for 275 bbls. of oil the first two and one-half hours with 5,000,000 feet of gas. The pay was at 3,330-47 feet. The 7-inch was cemented at 3,325 feet and the 2½-inch tubing was run to 3,342 feet. The hole was acidized with 2,000 gallons.

Continental Oil Co.'s No. 12-A Wells-2, C NW NE Section 12-25-36, which flowed sulphur water at a total depth of 3,518 feet, was plugged back to 3,489 feet and swabbed 15 bbls. of fluid a day. It was then acidized with 1,500 gallons after which it swabbed 26 bbls. per hour for two hours, of which 20 per cent was water. It is shut down for orders. It is the most northerly well in the Jal Pool. Same company's No. 13-A Sholes-2x, NW cor. SE Section 13-25-36, is drilling at 2,300 feet in lime. Southern Petroleum Exploration Co.'s No. 2-A Ascarate, C SE NW Section 24-25-36, is drilling at 3,210 feet in lime, and Phillips Petroleum Co.'s No. 1 Worth, C NE NE Section 3-25-36, has rig up. E. B. Guess and others' No. 1-B Conditt, NW NE SE Section 11-25-36, was abandoned at 517 feet. It spudded to this depth with machine last June. Guess' No. 1-B Justis, SW NW NW Section 20-25-37, is shut down at 1,060 feet. R. H. Henderson and others' No. 1 Langtry, C SE SE Section 8-25-37, has rotary rig up after spudding to 15 feet with machine.

A new location in the Jal area is the Texas Co.'s No. 1 Parker, C SW SW Section 29-26-37, the most southerly well in the pool, 1 mile north of the Texas boundary and 1 mile southeast of the Continental company's No. 1 Eaves, a gas well.

Hobbs Area

Gypsy Oil Co.'s No. 1 North Grimes, SW cor. Section 21-18-38, Hobbs Pool, showed another increase after being retreated with 3,000 gallons, making 6,967 bbls. of oil and 18,400,000 feet of gas through the casing in 24 hours and 3,847 bbls. and 9,050,000 feet through the 3-inch tubing. It is shut down for proration. Total depth is 4,219 feet. Before first treatment it made 1,056 bbls. through the casing. After first treatment with 2,000 gallons open flow was 4,020 bbls.

National Securities Oil Co.'s No. 1 Linam, NE SE SW Section 33-18-37, is sidetracking tools 9 feet off old bottom at 4,272 feet. Continental Oil Co.'s No. 2 Grimes, SE SE Section 28-18-38, is shut down at 4,152 feet in sandy lime. It had a show of gas at 4,065 feet. Shell Petroleum Corp.'s No. 2 Sanger, SW SE SW Section 27-18-38, is waiting after cementing the 7-inch at 4,058 feet, 2 feet off bottom, with 250 sacks. J. P. Cusack and others' No. 1 Moon, SW cor. NE Section 28-18-38, is drilling at 3,777 feet in lime, and the Amerada Petroleum Corp. and Skelly Oil Co.'s No. 1-E State, NE SW NW Section 24-18-37, is running the 7-inch at 4,053 feet in lime.

Maljamar Area

An important test in the Maljamar area in western Lea County is nearing completion in Maljamar Oil & Gas Co.'s No. 4 Baish, NE SE NE Section 21-17-32, which topped a pay sand at 4,065 feet and at 4,070 feet made one head of 25 bbls. It was then drilled to 4,080 feet and is estimated at 150 to 250 bbls. a day. It had a gas sand at 3,055 feet, estimated at 20,000,000 feet a day, and at 2,330 feet showed for a 25 to 50-bbl. well in a sand not found in the wells to the north. It is two locations south of No. 1 Baish, the discovery well, which made 125 bbls. initial at 4,155 feet, total depth. Half a mile to the northwest are Nos. 2 and 3 Baish which went to 4,121 and 4,169 feet, respectively, and made 160 and 177 bbls. initial. No. 4 runs higher and apparently is closer to the top of a local dome. The area to the south and east has not been drilled and the company probably will put down another test on the Miller permit, a mile to the southeast.

San Simon Area

Humble Oil & Refining Co.'s No. 1 Saunders, C NE NE Section 4-22-34, is fishing for tools at 490 feet, in red beds.

Lea Area

The Lea area included under this heading takes in Township 20s and Ranges 32 to 35e, inclusive, a district north, east and west of the Lea Pool, which is one of the most active wildcatting areas in Lea County at present. Two new locations were made in this area this week in Anderson & Pritchard's No. 1, Section 8-20-35, and the Argo Royalty Co.'s No. 1 Burner, SW NE NE Section 6-20-32, to the west. Last named is digging cellar and pits.

One well was abandoned in this area in the Texas Co.'s No. 1 Elliott, C NE NE Section 22-20-34. The location is two-thirds of a mile southwest of the same company's No. 1 Lea, the discovery well in the North Lea Pool. It had 3,100 feet of sulphur water at 3,815 feet, total depth. It had water at 3,792-3,809 feet. It had a show of oil at 3,710 feet, which was acidized with 1,000 gallons, with no results. The elevation is 3,665 feet.

The Texas Co.'s No. 1 Swearingin, C NE SW Section 8-20-34, had 1,000 feet of salt water in 12 hours at 3,610 feet and is drilling in lime at 3,735 feet. Same company's No. 1 Moore, C NW SE Section 21-20-32, cemented the 10¾-inch at 1,040 feet with 75 sacks and is drilling at 1,090 feet in salt. Ryan Consolidated Petroleum Corp.'s No. 1 Acree, C NE NW Section 35-20-32, is drilling in red beds at 545 feet. R. H. Henderson and others' No. 1 Russell-Steele, C NE NW Section 24-20-33, is waiting for 10-inch pipe at 802 feet, in red beds.

Eddy County

Location for a wildcat in the Seven Rivers district in southern Eddy County was released in the Coronado Oil Co.'s No. 1 Anderson, C NE NW Section 13-20-23, which is moving in materials. The test was spotted 5½ miles southwest of a well drilled 20 years ago to 1,500 feet by the Seven Rivers Oil Co., which was reported to have had three good shows of oil.

The A. & M. Petroleum Co.'s No. 1 State, SW NE Section 15-21-27, Carlsbad district, is drilling at 1,475 feet in lime, and the Getty Oil Co.'s No. 7 Dooley, SW cor. NW Section 24-20-29, Getty Pool, set the 16-inch at 230 feet in red beds with 150 sacks. Harry Leonard and others' No. 1 Nunlee, C NW SW Section 27-16-30, North Jackson, is drilling at 2,300 feet, in lime, and the Skelly Oil Co.'s No. 1 Dow, C SW SE Section 15-17-31, Maljamar district, is drilling at 2,573 feet in anhydrite. Neal Wills and others' No. 1 Montgomery, SW NE Section 10-23-30, Big Eddy district, is drilling at 3,230 feet in salt.

Union County

Sierra Grande Oil Corp.'s No. 1 Rogers, C NE SW (cor.) Section 4-29-29, Sierra Grande Arch, is drilling below 350 feet.

Santa Fe County

Elmer Fisher's No. 1 Hill, Section 6-10n-7e, Barton district, is drilling at 2,560 feet in red and blue sandy lime and showing some gas. Drilling contract was renewed at 2,500 feet to carry the test to the granite.

Bernalillo County

The Norins Realty Co., Inc.'s No. 1 Gallegas grant, C NW NW Section 19-11-4e, northeast of Albuquerque, is rigging up rotary and expects to spud February 1.

San Juan County

An operation not heretofore reported is Continental Oil Co.'s No. 41 Rattlesnake, NE cor. Section 35-30-19, in the

Rattlesnake Field. This location is about a mile north of the nearest producer, but approximately on the same contour as a producer drilled in the SW cor. Section 2-29-19, on the southwestern edge of the pool.

Roosevelt County

The Claudell Development Co.'s No. 1 Wilmes, C SW SE Section 21-2s-30, Pomeroy district, is drilling at 3,440 feet in hard lime and making rainbows of oil. Salt water at 3,330-33 feet was shut off with the 6-inch followed by a good show of oil at 3,367 feet. Top of Glorietta formation is expected at 3,550 to 3,600 feet.

McKinley County

Royer Oil Co.'s No. 1 Santa Fe Railroad, NW cor. SW Section 13-15-10w, Walker Dome, is still shut down at around 1,000 feet with an undisclosed quantity of oil in the hole while the operators are attempting to acquire more acreage.

COLORADO

Much concern has been felt by holders of oil and gas prospecting permits on the public domain under the provisions of the general leasing act of February 25, 1920, as to whether these permits again will be extended. The last of the several relief measures passed by Congress since 1929 extended relief to permitees for three years ending July 1, 1935. Recently no expiring permits have been extended beyond May 1, 1935. The purpose of this has not been disclosed. Whether it is a move to have a uniform date for all expirations in the future, or preliminary to a change of policy by the Department of the Interior in regard to oil and gas operations on the public domain, or in anticipation of some additional legislation by Congress on the subject is purely speculative. While all angles have been discussed and many plausible explanations have been offered, the facts have remained a closely guarded secret in Washington. This week an inkling of what may occur trickled through from Washington from sources in a position to learn of the very latest developments. This was to the effect that permits will be extended as usual. There were no details and whether it intimates some action by Congress giving further relief or a decision by department heads as to policy was not disclosed.

Adams County

The drilling of a deep test to the Dakota at around 9,000 feet on the Derby structure 12 miles northeast of Denver by the Riddle Petroleum Co. and others, in their No. 1 Baxter, C SW Section 2-3s-66, is expected to get under way next month. Location for this test was released last July and was followed by the erection of a reinforced 122-foot steel derrick, setting of tanks and other preliminary work. Recently a water well was completed in a sand in the Laramie at 757-890 feet which makes 4,000 bbls. a day. This well has yielded some valuable geological information confirming the report of C. T. Lupton on the structure. In this immediate vicinity is the Scranton coal field. A railroad from Denver to Scranton was built many years ago by New York interests with the intention of marketing the lignite coal in the first named city. However, the coal, which lies in three strata, proved upon development to be too soft for commercial exploitation. These beds have been of considerable value as a marker. Lupton, in his report, concluded that the well will start 120 feet below the base of the Scranton coal beds, while some other geologists held that these strata would be encountered. The log of the water well confirmed Lupton's opinion and the first of the two main water sands in that district were logged at almost exactly the expected depth, correlating in close detail with the log of the Fitzsimmons well 7 miles to the south. This puts the Milliken sand at around 1,200 feet and confirms the evidence of structure by running approximately 400 feet higher than in the Fitzsimmons test. In the latter good shows of oil were encountered. Riddle Petroleum Co. operation has 3,600 feet of 6-inch drill stem on the racks and is this week receiving rotary equipment. The company will sell spreads to other companies and has contracted about $80,000 of interests.

Jefferson County

The Ruby Hill Oil & Gas Co.'s No. 1 Braden, SE cor. Section 24-4s-69, near Denver, which has made comparatively little new hole for the past year, is actively at work again at a total depth of 4,280 feet. A new 5,500-foot steel cable has been installed and 4,200 feet of the 4¾-inch has been pulled. The hole is being reamed from 3,950 feet, where the 6⅝-inch was cemented, to bottom and when this is finished a string of 5⅞-inch will be run and carried. It topped the Hygiene at 3,750 feet and next principal objective will be the Hygiene sand in the base of that formation.

Moffat County

Stanolind Oil & Gas Co.'s No. 35-8D Parkinson, SE cor. NE Section 22-4n-92, Iles Dome, is rigging up rotary.

Prowers County

Trojan Oil & Gas Co.'s No. 1 Lotus Oil, NW NE NE Section 15-23-46, Lamar district, is drilling at 4,730 feet in the Cherokee formation.

Montezuma County

McElmo Oil Co.'s No. 1 West, NE NW NE Section 31-36-17, McElmo district, is shut down at 3,000 feet for drilling line. It is carrying the 6⅞-inch. It will continue to the Pennsylvanian, top of which is expected at 3,200 feet.

WYOMING

Big Horn County

Ohio Oil Co.'s No. 1 Hoskins, SW cor. Section 14-56-97, Byron district, is drilling at 4,685 feet, and Crosby & Huntington's No. 1 Denio, Tract 43-C, Section 15-55-97, is bottomed at 1,120 feet and ran the 13⅜inch to 1,083 feet and is resuming. J. W. Bales' No. 1 Parker, C SW SW Section 23-49-89, Ziesman Dome, straightened crooked hole to bottom at 180 feet and shut down for the winter.

Carbon County

Ohio Oil Co.'s No. 1 Morris, C NW SE Section 6-20-77, Diamond Dome, is drilling at 5,612 feet in shale. It was in the top of the Muddy at 5,150 feet. Same company's No. 1 Kyle, NE SE NE Section 26-21-79, Medicine Bow district, joint with the California Co., is drilling at 3,730 feet and had a small show of oil at 3,450 feet. Argo Oil Co.'s No. 1 Johnson-Union Pacific, NE cor. SE Section 5-24-87, O'Brien Springs district, which is deepening to the Sundance, is drilling at 3,165 feet in subzero weather. Water lines are 5 feet under ground. Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Section 19-20-83, Overland Dome, is fishing for casing at 5,931 feet, total depth, and its No. 1 Whitford, SW SE SE Section 24-20-84, is redrilling at 2,300 feet.

Converse County

Otto Olson and others' No. 1 Carey ranch, Section 6-32-74, Box Elder district, is shut down for the winter at 642 feet. John Ackard's No. 1 Daniels, SW SE Section 17-32-71, Brenning Basin, is underreaming pipe to bottom at 2,350 feet. E. B. Jones and others' No. 1 State, SW cor. Section 16-32-69, Shawnee district, which spudded to 22 feet and shut down, is reported preparing to resume after closing a deal for some additional acreage.

Fremont County

Mid-American Oil Co.'s No. 2 Government, C NE SW Section 14-28-92, Sheep Creek, is drilling at 1,687 feet.

Niobrara County

Ohio Oil Co.'s No. 1 Rohlf, NE SE Section 32-36-65, Lance Creek Field, is waiting after cementing the 12½-inch at 215 feet. This well is headed for the Sundance, in which formation two wells were completed several years ago. These wells are from one-fourth to one-half a mile to the southwest. Argo Oil Co. and Continental Oil Co. own offset acreage and may drill.

Weston County

Conway Oil Corp.'s No. 1 Government, C SE NW Section 7-41-60, Dewey district, is drilling at 1,215 feet. In the Osage Field, Albert Jones' No. 8 Bock, SW cor. NE Section 21-46-63, was dry at 750 feet. Irene Eaton's No. 14 Government, NE SW Section 30-46-63, is drilling below 1,306 feet. Lew Fletcher's No. 3 fee, NE cor. SE Section 5-46-63, is drilling below 420 feet.

Thirty-eight or 40 refineries, ranging in capacity from 15 to 300 bbls. each are

Government Municipal Corporation Bonds

Efficient facilities offered banks and individuals for the purchase and sale of investments.

Francis, Bro. & Co.

Est. 1877

4th and Olive, St. Louis, Mo.

Kennedy Bldg., Tulsa, Okla. Telephone 2-3116

MORE LARKIN Float Shoes were used in the East Texas field during 1932-33-34 than all other makes combined!

We feel that this one big fact, more than any other, indicates the real confidence that operators place in LARKIN Equipment. In the intricate, important job of cementing a well, every unit that goes into the process must be efficient—dependable. The Float Shoe, the controlling factor in cementing, *must do a good job!*

LARKIN Float Shoes and other Oil Well Tools are noted for leadership in design—correct metallurgical specifications—accurate machining—and absolute dependability.

At All Supply Stores.

Warehouse Stocks at
Houston, Texas, Tulsa, Okla., and in East Texas.

LARKIN PACKER COMPANY, ST. LOUIS

LARKIN PACKER CO.

operating in the Osage district on crude, most of which is trucked, from that field. These plants are located not only in the field, but at Gillette, Sheridan, Buffalo, Lusk and other points extending over into Nebraska and South Dakota. All have been busy selling distillates for fuel oil, getting 70 cents a barrel. The field has been cleaned out of this commodity and there is considerable gasoline in storage. The refiners are now beginning to store tractor fuel for the spring demand.

Park County

Garland Oil Co.'s No. 2 Government, SE NE NW Section 14-56-98, Garland Dome, is shut down at 1,710 feet after cementing the 9⅝-inch at 1,701 feet and is building wooden derrick to replace steel derrick which began to sink under weight upon it. Hole is bottomed close to the Torchlight sand.

MONTANA

Most of the drilling wells in Montana continue to be shut down on account of the cold weather and the majority of these will make no attempt to resume before spring.

Two new locations were staked in the Cut Bank Field. The Hannah-Porter Co.'s No. 1 International Harvester, Lot 7, Block 18, Original Townsite, Section 12-33-6w, in the town of Cut Bank, has cellar completed, and Katley's No. 1 Drumheller, Lot 1, Section 10-34-6w, had some materials on the ground before work was suspended.

A. B. Cobb's No. 4 Walberger, SE cor. Section 35-35-6w, is running the 7-inch to 2,750 feet. Fist and others' No. 1 Donen, Lot 10, Block 11, Section 12-33-6w, is drilling at 1,125 feet, and Marshall and others' No. 1 Wilkins, NE SE NE Section 12-33-6w, is drilling at 1,950 feet. Montana Power Gas Co.'s No. 1 O'Brien, C SE SE Section 31-34-5w, spudded to 75 feet and shut down. Bruce Radigan's No. 1 Connolly, NW SW NW Section 7-33-5w, spudded to 30 feet and shut down. Watson and others' No. 1 Miller, W NW NE Section 1-33-6w, is drilling at 2,180 feet, and Wickstrand & Walgren's No. 1 Simero, Lot 5, Block 17, Section 12-33-6w, is drilling at 1,500 feet.

WASHINGTON

The Miocene Petroleum Co.'s No. 1, NE NW Section 17-12-19, Union Gap district, Yakima County, is drilling at 3,200 feet.

OREGON

Coast Oil Co.'s No. 1 Coquille, Fat Elk district, in Coos County, set the 4½-inch at 1,900 feet for a water shutoff. The Steiwer Dome Development Co.'s No. 1, SW NW Section 14-9s-3w, Marion County, sidetracked four joints of casing at the bottom and is resuming at 1,202 feet.

Canadian Fields

(Continued from Page 141)

17-3w5, is shut down at 718 feet, just above the McDougall-Segur light crude sand. Arrangements are made to run three shifts when the weather moderates.

On the Grease Creek structure northwest of Calgary, a group of independent operators are pooling their acreage for a joint test. The test will likely spud early in the spring.

On the Aldersyde structure east of the Turner Valley Field, Ranchmen's Gas & Oil Co.'s No. 1, LSD 16, Section 13-20-28w4, is shut down at 6,263 feet pending completion of acreage arrangements when it will be deepened into the sand.

On the Watson structure, west of Lundbreck, Raven Oils' No. 1, LSD 1, Section 20-9-2w5, is at 1,225 feet and working on casing. Mar Jon Oil Co.'s No. 3, LSD 3, Section 4-10-2w5, is standing cemented at 740 feet. Mar Jon-Maxmont's No. 4, LSD 10, Section 20-9-2w5, is below 1,295 feet with some small shows of oil and gas.

Alberta Drilling

Figures compiled by the petroleum and natural gas division of the Alberta lands and mines department show that since drilling operations were started in the province about 50 years ago, a total of 1,719,000 feet of hole, or upwards of 327 miles, had been drilled, up to the end of 1933. Some 770,335 feet were in the Turner Valley Field; 128,191 feet in the foothills outside Turner Valley, and 821,215 feet in other parts of Alberta. Prior to 1927 most of the drilling was outside the foothills. The peak of Alberta drilling was in 1929, when a total of 369,247 feet of hole was drilled; the low point since 1927 being in 1929, with only 32,621 feet. The 1934 total has not been compiled, but should run close to 100,000 feet.

Alberta Royalties

Announcement has been made by John Harvie, deputy minister of lands and mines for Alberta, that although the provincial government is willing to hear further representations with reference to reduction of the royalty on oil production, there is little likelihood of any change unless new arguments are produced. The rate of royalty, 5 per cent before January 1, was on that date advanced to 10 per cent, on acreage leased from the Alberta government. Royalties on leases from private owners are arranged by mutual agreement.

Saskatchewan Drilling

In northern Saskatchewan, Trail Blazer Oil & Gas Co.'s No. 1, SW Section 32-44-3w5, near Hudson Bay Junction, is at 610 feet and waiting for casing. It stands 100 feet in the Devonian lime. At 585 feet a thick asphaltic grease was met and deeper drilling showed a heavy crude oil. When casing is run, the hole will be drilled about 100 feet deeper, in the hope that lighter crude will be struck. Delivery of casing has been held up by bad trails in the muskeg country.

In southern Saskatchewan, Amalgagated Oils, Ltd., will finish Blackfoot Oil & Gas Co.'s No. 1, Township 13-20w2. Work will likely resume early in the spring, from 1,750 feet.

Drilling in Ontario

In the De Clute Field, Kent County, Ontario, Union Gas Co.'s No. 27 has been located in W half Lot 140, Talbot Road, Raleigh Township, offsetting Gas Producers Syndicate's No. 2, Pardo lease, west and a little south. Gas Producers Syndicate's No. 3, Pardo lease, Lot 139, Talbot Road, is starting work, about 1,100 feet south of No. 2.

In the Tilbury Field, Kent County, R. L. Pattinson's No. 1, Jones farm, N Lot 169, Talbot Road, Tilbury East Township, which was a small gasser at 1,400 feet, was shot with 150 pounds of dynamite. It is cleaning out, and considerably better production is indicated. Ladd & Ziegen's No. 2, Guy Mifflin farm, Lot 7, Concession 14, Tilbury East Township, has been located; No. 1 on the same lease had a shot production of 330,000 feet a day.

In the Dover Field, Kent County, Medina Natural Gas Co.'s No. 1, Stirling lease, E half Lot 1, Concession 4, Dover East Township, is below 2,500 feet and getting close to the Trenton limestone. Prairie Oil & Gas Co.'s No. 2 Stephens farm, Lot 2, Front Concession, is pulling pipe after a shot in the Trenton failed to develop any production.

In the Eden Field, E. P. Rowe's No. 2, Wilson farm, Lot 27, Concession 8, Bayham Township, Elgin County, is below 750 feet. E. P. Rowe's No. 3 Charles Coyle farm, Bayham Township, is below 550 feet. Midwal Oil & Gas Co.'s No. 1, Lot 2, Concession 3, North Talbot Road, Middleton Township, Norfolk County, is below 680 feet. Middleton-Norfolk Gas Co.'s No. 2, Vernon McDonald farm, Lot 5, Concession 3, is rigging.

In the Petrolia shallow field, Lambton County, a pumping rig on the Miller and Nesbitt oil farm, north of Petrolia Street East, was destroyed by fire, with a loss estimated at $1,000. Some 30 wells are temporarily off production.

Ontario Regulations

Notice has been given by Col. R. B. Harkness, natural gas commissioner for Ontario, of regulations under the Well Drillers Act affecting drilling operations in Ontario. Anyone wishing to drill must first secure a license. Licenses must also be taken out by owners or operators of drilling rigs. Any person prospecting for gas, or acquiring gas rights by lease or otherwise, whether in his own behalf or as an agent, must obtain a license from the natural gas commissioner. Every owner of a drilling rig must obtain a license for each rig operated. The license fee is $5.

Every person or company producing, transmitting by pipe line or distributing natural gas must obtain a license from the commissioner for each class of operation. The fee for such license is $10; but this does not apply to any person producing, transmitting or distributing less than 1,000,000 feet of gas annually.

All licenses issued by the commissioner expire on December 31, and may be renewed from year to year on payment of the prescribed fee.

PIPE LINE ELECTIONS

OIL CITY, Pa., Jan. 26.—Officers and directors of the Southern Pipe Line Co. and the Southwest Pennsylvania Pipe Lines were elected at annual meetings.

Officers for both companies are the same, with Forrest M. Towl of New York, chairman of the board; Allan T. Towl of New York, president; T. C. Towl of Pittsburgh, vice president and general manager; J. M. Tussey of Oil City, vice president and treasurer; and E. W. Zeigler of Oil City, secretary.

Directors named by the Southern Pipe Line Co. were: Allan T. Towl, T. C. Towl, J. M. Tussey, E. W. Zeigler and J. F. Burgess.

Directors of the Southwest Pennsylvania Pipe Lines were: Allan T. Towl, T. C. R. Cronise of Pittsburgh, D. L. Jolly and W. W. Fisher of Washington, Pa.

DEATH OF COLONEL BOOTH

Advices reaching America report that Col. George Booth died in a hospital at Guildford, England, January 9. He had been ill for some time, suffering from tumor of the brain. During the World War he served with distinction in the British army, and was later resident manager in South America for British Controlled Oilfields, Ltd., with headquarters at Maracaibo. He was well known in oil centers in England, the United States, and South America.

PLUS..+

You expect straight, smooth, clean-threaded pipe .... but the quality of the steel determines its service

ALLEGHENY STEEL PIPE

is 100% controlled from open hearth to finished pipe.. that's why it's been a preferred product in the oil fields for over 30 years

ALLEGHENY STEEL CO., Brackenridge, Pa.

Sales Offices and Warehouse Stocks in the Principal Cities

ALLEGHENY PRODUCTS: SHEETS FOR AUTOMOBILE BODIES, METALLIC FURNITURE, DEEP DRAWING—ALLEGHENY METAL—ALLEGHENY ALLOYS —ELECTRICAL SHEETS—STEEL CASTINGS—SEAMLESS TUBING—BOILER TUBES—PIPE.

TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the question is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Special Procedure Required For Pourpoint Test of Fuel Oils

Our experience with fuel oils does not confirm your statement in the December 20th issue of the Journal: "If there is no change in the composition of the oil, the pourpoint will remain constant." We find that the thermal history of the oil has a marked influence upon the pour test, as made by A.S.T.M. D 97-34, and that the pour test may increase materially in storage. We are endeavoring to establish confirmation of the fact that this method of taking pour tests on this material is unreliable and misleading.—R. C. C.

For some years I was active on Committee D-2 of the A.S.T.M. and was also a member of the Advisory Board of the Federal Specifications Committee for the preparation of U. S. Government methods and specifications, so am quite familiar with the pourpoint matter.

I see no reason to modify my statement. The important factor, uniform composition, has been mentioned. If some method for maintaining a mixture at a constant composition were devised, the physical and chemical properties would not vary under any fixed condition of temperature and pressure. Such a heterogeneous mixture as ordinary fuel oil offers so many difficulties against maintaining an absolutely uniform composition that it has not appeared feasible for the authorities to invent apparatus to bring the oil to a state where the composition would remain uniform while being tested for pourpoint.

The standard pourpoint method, A.S.T.M. D-97-34, is not intended to give a flow point, but simply an indication of the temperature below which it is not advisable to attempt to pour the oil from a container, use it in an automobile, or move it by gravity through a pipe. It should be explained that the A.S.T.M. pourpoint method is designed especially for the examination of lubricating oils. Certainly the test cannot be expected to measure the actual behavior of an oil under the varied conditions of service. It should be used in the refinery only as a guide for control of operations, grading oils, and in the markets for checking specifications. It is thought that the current A.S.T.M. method is satisfactory for these conditions.

When it is essential that the oil shall flow through a pipe, it is frequently stipulated in contracts that the oil shall flow freely through a pipe of given diameter, at a stated temperature, and under a given pump pressure.

The last publication of A.S.T.M. methods for testing petroleum products was made September, 1934. The Cloud and Pourpoint method, pages 53-59, is described in detail and on page 59 is the special procedure recommended for testing black oils and fuel oils, as mentioned in my discussion of December 20, 1934.

Weight or Saturation Time For Evaluating Charcoal

Is the weight of vapor or gas taken up by activated charcoal a measure of the value of the charcoal for extracting vapors from gas?—L. C. E.

The weight of gas that may be adsorbed by an activated charcoal is not a reliable indication of what the material will do in plant operation. The time required for saturation is a better index but both values must be considered. Lamb, Wilson and Cheney, Ind. Eng. Chem., 11, 420 (1919) report a series of tests made on activated charcoal as shown in the table.

Source of charcoal—	Time of activation with steam at 900° C.	Weight adsorbed per-centage	Saturation time in minutes
Sycamore	15 min.	41	7.3
Cedar	60	78	16.0
Mountain mahogany	60	32	16.3
Ironwood	60	31	20.8
Brazil nut	120	46	32.2
Ivory nut	120	48	47.0
Colume nut	120	51	53.4
Babassic nut	210	85	58.7
Cocoanut shell	120	61	58.7
Cocoanut shell	180	72	64.4
Briquetted sawdust	120	53	40.0
Briquetted carbon black	240	52	50.5
Briquetted bituminous coal	165	58.3	46.8
Briquetted anthracite coal	480	52	40.7

These tests were made by passing dry air containing 7,500 parts per million of chlorpicrin ($C(NO_2)Cl_3$) at the rate of 100 cc. per minute through a tube containing the charcoal, 1.41 cm. inside diameter and 10 cm. long. The time recorded was the number of minutes before chlorpicrin appeared at the exit end in concentration greater than 1 per cent of the entering concentration.

This work indicates that cocoanut shell charcoal requires the longest time, 64.4 minutes, for saturation, at 72 per cent of its weight, and that cedar charcoal will adsorb up to 78 per cent of its weight but will remain active for only 16 minutes.

Determining Origin of Naphthas by Fixed Properties

Is it possible to determine whether a naphtha has been refined from a paraffin or an asphalt base crude oil? That is after a crude has been refined can you tell from which base it was refined? What is the manner of testing?—F. H. R.

It is not possible to identify in every instance a naphtha as to the type of crude oil base from which it has been made. It may be that a very low octane rating, antiknock value, might indicate that a straightrun naphtha was derived from a paraffinic oil as compared with another specimen, of the same general properties, but having a high antiknock rating, which had been made from a naphthenic oil.

Sometimes the oil from a certain pool may have some characteristic that will persist in the primary products and serve to aid in determining the kind of oil from which they were made. However, this is seldom true of a cracked product or an oil that has been subjected to chemical treatment.

The properties that may help to suggest the type of crude oil from which a primary product may have been made include—odor, color, gravity and chemical composition. A few examples will serve to illustrate: There are several oils produced in the Gulf Coast fields that have a pleasant cedar or terpene odor, so a naphtha having a similar odor might have come from one of these oils. While not so definite, some oils contain phenolic compounds that tend to cause the naphtha to be colored red to pink; the oil from the Panhandle of Texas is one of these. A naphtha of exceptionally high gravity is produced in the Alberta district of Canada.

The crude oils of the world may be placed in one of four classes and it is quite easy for an expert to identify any crude oil as to type. This is not so simple when the naphthas are involved because they do not vary in distinguishing properties in such a conspicuous way.

Ink For Recording Charts Made From Glycerin Solution

We prepare several gallons of recording chart ink each year from glycerin, water and dye. Some complaints are made as to fluidity, hygroscopic tendencies, etc. The ink should dry on the charts within a reasonable time but evaporate from the pen in a week. Have you anything on this? —R. W. P.

The U. S. Weather Bureau is reported to have used for outdoor recording charts, an ink containing 10 grams of dye dissolved in 500 cc. each of pure glycerin and water. Some users make the mixture in the proportion of one part of glycerin to three parts of water. In other plants the formula is modified by the addition of a very small quantity of high quality dextrine and a little acetone.

Just what formula will give the best results under particular conditions must be determined by experiment.

The water-soluble dyes that have been found to make satisfactory chart inks include Methyl Violet, Soluble Blue, Methylene Blue, Emerald Green, Fast Crimson and Crocein Scarlet.

Principle of Solvent Extraction Process for Making Lub Oil

What is the essential principle of the solvent extraction process for making lubricating oil? Is it a chemical or physical process? What improvement has the process accomplished other than lowering the wax content?—G. Y. A.

Solvent extraction means that whatever impurities or undesirable substances are to be removed they must be soluble in the liquid or liquids applied. Petroleum is separated into the several commercial products by mechanical means, distillation largely, and the primary products purified by the use of chemicals. The solvent extraction methods make use of liquids that will dissolve some substances and not others. It is this property of selective action, the ability of certain liquids to dissolve one substance that is present without action on the remainder, that is the fundamental principle of the solvent extraction processes.

The operation consists in agitating the oil and the solvent and then permitting the mixture to settle. This results in the formation of two layers, the "washed" oil, called the raffinate, is the improved oil and the other, the extract, consists of the solvent and the substance removed from the oil. The extract, usually black in color, contains a large part of carbon forming material, the more volatile part of the original oil and the low viscosity forming portion.

It is claimed that the final product obtained after the solvent extraction treatment, when compared with the original oil, is improved in color, has a better viscosity index, and less carbon residue. Selective solvents, as a rule, do not influence pourpoint but a dewaxing operation, with the consequent lowering of pourpoint, is usually an adjunct to the solvent extraction operation.

As an example of what may be accomplished by the combination of a solvent process with dewaxing, the data from the article, page 39, The Oil and Gas Journal, December 27, 1934, are used.

PROPERTIES OF THE RESIDUUM FROM OKLAHOMA OIL, ABOUT 31 PER CENT BOTTOMS

Gravity, A.P.I.	23.5
Flash, °F.	470
Saybolt Univ. vis. at 210° F.	105
Pourpoint, °F.	85
Viscosity gravity constant	0.844

After treatment with the solvent a paraffinic oil having these properties resulted:

Gravity, A.P.I.	29.6
Flash, °F.	460
Pourpoint, °F.	100
Viscosity at 210° F.	71
Viscosity gravity constant	0.80
Color N.P.A.	8
Acid, per cent	0.08

The finished dewaxed oil tested:

Gravity, A.P.I.	29.0
Flash, °F	450
Fire, °F.	515
Viscosity at 100° F.	658
Viscosity at 210° F.	74
Viscosity index	100
Color	Dark 5
Pourpoint, °F.	0-20
Viscosity gravity constant	0.8035
Carbon residue, per cent	0.20

Further details, together with a description of an operating plant, will be found in the reference mentioned.

NATURAL GASOLINE MANUFACTURE

California Group Announces Papers for the Next Meeting

Reviewing the latest methods in technical and engineering report writing as applied to petroleum operations, John F. Dodge, professor of Petroleum Engineering at the University of Southern California, will address the February 7 meeting of the California Natural Gasoline Association.

Because of the steadily growing need for adequate training in statistical methods, Professor Dodge has given considerable study to the technique of writing technical and business reports for executives and engineers. His discussion will reveal the correct method of arranging material for presentation, methods of laying stress on essential facts, the preparation of graphs and charts, and methods of abstracting.

On the same program R. N. Donaldson, of the research and development department of the Standard Oil Co. of California will describe "A New Plant Residue Test," developed for the rapid determination of the "pentanes plus" content of dry gas. The test is known as the butane absorption-weathering test. It can be conducted at a plant in about two hours' time, and responds sharply to changes in operating conditions such as changes in oil circulation, oil vapor pressure, etc.

Dickerson Purchases Stock of Sabine Valley Company

A complete purchase of the capital stock of the Sabine Valley Gasoline Co. has been effected by H. R. Dickerson and associates of Shreveport. Reorganization and refinancing of a natural gasoline plant in East Texas will take place in the near future.

With the plant tied into a system serving 1,000 wells, a daily capacity of 10,000,000 feet of gas is planned with an output of about 35,000 gallons of gasoline per day. Cost of the plant was set at $500,000.

The officers of the new company are: Mr. Dickerson, president and treasurer; Laurice W. Dickerson, vice president; and W. D. Wilson, secretary. H. R. Dickerson was formerly vice president in charge of operations for the Arkansas Natural Gas Co. He has been in the oil industry for the past 24 years.

SAMPLING BULLETIN

Bringing up to date the latest information on the sampling of natural gas and gasoline, the California Natural Gasoline Association has issued Bulletin TS 342, which supplants an earlier bulletin published in 1932 (TS-322). The product of the co-operative efforts of a committee headed by H. J. Multer of the Union Oil Co.

Describing in detail the technique to be followed, and precautions to be observed in sampling gases and liquids, the 13-page bulletin deals specifically with such items as the design of proper containers, preparation of the containers for sampling, and gives methods to be followed in obtaining good samples. The section on gas sampling is expanded to include developments in the use of the center line sampling tap with illustrations for construction and installation.

The bulletin concludes with hints on the sampling of liquefied petroleum gas and recommendations for obtaining proper gas and gasoline samples at absorption plants. Copies can be obtained through the C.N.G.A. secretary, 1217 Associated Realty Building, 510 West Sixth Street, Los Angeles, 25 cents postpaid.

High Volatility Starting Fuels Proposed for Canadian Commercial Aviation

In a paper presented before the annual meeting of the Society of Automotive Engineers at Detroit, Squadron Leader A. Ferrier of the Royal Canadian Air Force, graphically described the problems confronting the development of commercial aviation in Canada. In order to understand the problems with which the northern flyer must cope, it is necessary to see that Canadian flying is essentially a pioneering activity. It must be developed as a supplement to, rather than a competitor of the Canadian railways. Therefore, as the principal railway trunk lines run east and west, and the greatest need for transportation is in the undeveloped regions of the North, the airplane found its use in north-south routes with the railroads as its base.

Commercial aviation in such isolated districts entails many factors which are not even considered in systems such as are found in the United States. In addition, the severe winters encountered in these northern regions greatly multiply the difficulties of flying. Besides being self-supporting as to food, fuel, supplies, etc., the plane must carry facilities for warming the oil and engine when starting cold. This materially cuts down on the pay load which a plane can carry.

Starting Difficulties

Much difficulty was encountered in finding a fuel which would start the airplane motor at low temperatures. A fuel with volatility sufficient to provide easy starting would cause vapor lock at high altitudes. Squadron Leader Ferrier describes the work done in this connection. It is important to note that liquified gases would be equally as practicable as ether in starting cold airplane motors. He said:

"The problem of getting the first kick out of the motor is a ticklish one and has been the subject of numerous experiments, an organized attack on the problem having been commenced under the auspices of the Air Research Committee of the Research Council of Canada by Prof. C. H. Robb of the University of Alberta at Edmonton in 1920. Professor Robb continued his experiments for about three winters and forecast several developments which are really only now being put into practical use, in particular the use of an oil cooler in winter. He used a Liberty motor and the problem was presented to him in this way. 'The motor is in an airplane forced to spend a night in the open away from a base. It has been assumed that while the engine was still hot the cooling system has been drained or that an efficient antifreeze mixture is available. It is also assumed that the battery has been removed from the machine and kept at ordinary room temperature and also that a supply of commercial ether is available.' Some of Professor Robb's technique would not be accepted today as being too brutal; for instance, he recommended supplying the motor by injecting about half a pint of gasoline and turning the crankshaft over with switches off until the motor worked freely. In extenuation it must be remembered that the starting handle of a Liberty motor took some pretty heavy heaving to get results. The following table gives his recommendations:

Temperature—	Per cent— Gasoline	Ether
20°F. and warmer	100	(*)
0°F. to 20°F.	75	25
—15°F. to 0°F.	66	34
—30°F. to —15°F.	50	50
Below —30°F.	(*)	†100

*Nil. †Warm.

"About one-fourth pint of the appropriate mixture was injected into the intake manifolds and as soon as the engine kicked an additional one-fourth pint was shot in which generally sufficed for the engine to begin to feed on gasoline from the carburetor which had in the meanwhile been flooded. Large capacity priming pumps and nozzles were found to be essential.

"It will be noted that under the conditions it was assumed that the battery could be kept at room temperature. This is a concession that we would not care to allow today as the object is to eliminate all possible manual labor. The loss of capacity of storage batteries at low temperatures is a very serious objection to the use of battery ignition in cold climates especially in these times when the poor old battery is asked to do so many things. This is one of the considerations that has led the department to turn down the booster coil in favor of the hand starting magneto. The aircraft and its crew must be self-supporting and in the final analysis the energy for starting may have been derived from the calories in the emergency rations supplied for the men. This is not far fetched; many a pilot in the north has taken the spark plugs to bed with him in the eiderdown bag so as to be sure that they will be warm and dry when required for use the next morning. Incidentally it is quite common technique to warm at least one plug out of each cylinder on a shovel over the engine warming stove. This is not so convenient when a simple engine cover is being used.

"To insure lubrication at the start Professor Robb tried both 'Mobil A' and 'Mobil Arctic' and decided definitely in favor of the latter. A little 'Arctic' was left in the crankcase overnight and the tank was short circuited by means of a bypass with a relief valve leading to the tank so as to control the pressure on the suction side of the oil distributing pump. This idea is similar to that of the segregation of a portion of the oil tank but it has the disadvantage that someone might forget to cut in the main tank.

"Experiments were also done at this time with jets of various sizes larger and smaller than the standard high speed jet. As might be expected as cold air has more oxygen per unit volume than warm air the standard jet was inclined to give a lean mixture and the motor was found to take the throttle better with a slightly oversize jet (070 as against 065 on the Liberty).

"The danger of vapor lock at high altitude or at high temperature definitely precludes aviation gasoline from being a really easy starter, at least in the present stage of the art, and in order to achieve the ideal of dead cold starts it will be necessary to resort to a starting fuel such as ether or some gaseous fuel compressed into a bottle and injected into the intake manifolds. It must be confessed that the lead given by Professor Robb has been somewhat neglected for a long time but some of the blame can be attributed to the engine manufacturers who were, to say the least, reluctant to tolerate the use of low viscosity oils. As long as the necessity for warming the oil and the motor was accepted so long was the methodical development of easy starting retarded."

Power Plant Proposed to Utilize Panhandle Gas

Following the precedent set by the Tennessee Valley Authority in the utilization of natural resources under government supervision, a proposal is under way to apply a similar plan to convert Panhandle gas into power. For nearly a year, Congressman Marvin Jones of Amarillo has been bringing to the attention of key government men his arguments for such a move. By means of letters and conferences he has outlined the potentialities of the field and described the enormous waste which is being practiced, supplementing his argument with figures compiled by the U. S. Bureau of Mines. A lively interest has developed due to this action, and the plan is sure to receive serious consideration when the federal power project is again brought up.

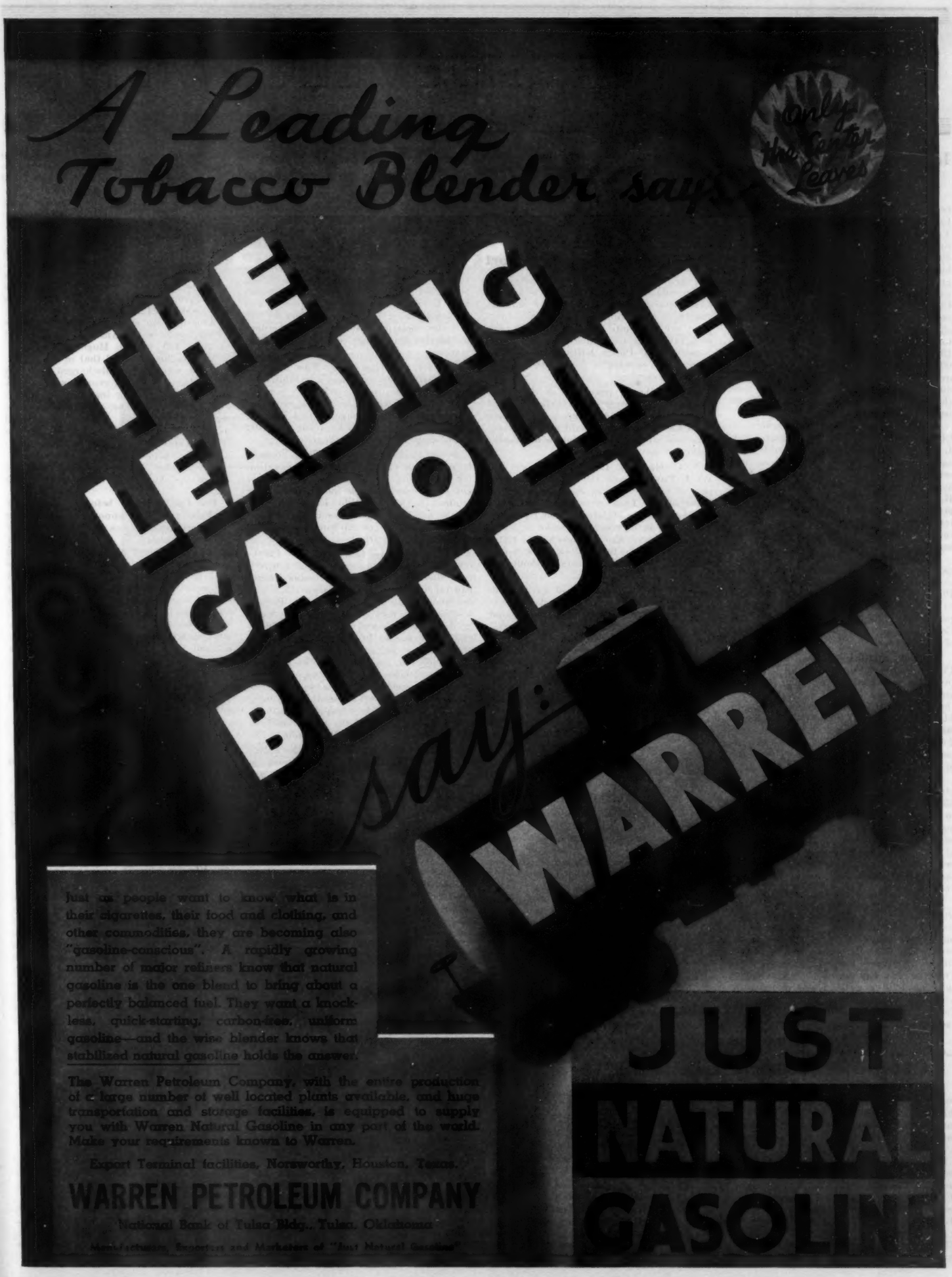
The proposal aims at the crux of the Panhandle situation, that of utilizing waste gas now being blown into the air from natural gasoline plants. It is Mr. Jones' opinion that conversion of this gas reserve into electrical power would require no greater investment than the Tennessee project. Upon careful analysis, however, it will be noted that comparison of the two projects is rather distant. The difference lies in the fundamental factor: the source of power. One relies on water power, eternal in comparison with power projects and administrations, while the other depends on a supply of energy which can be seen decreasing from month to month. This introduces the problem of the optimum size of the plant and the scope of control needed. An installation large enough to handle all the gas now being wasted might be rendered obsolete by the depletion of the field before it could be placed in operation. It is clear, then, that some control must be acquired to decrease the wastage, both lengthening the life of the field and permitting utilization of all gas by a smaller installation. This incites the reasoning that if part control can be administered, then full control is not impossible, thus conserving the gas resource in its original form to be utilized through already established means at a great saving.

In addition, there is the problem of outlet of the proposed power after conversion. The distance of the Texas Panhandle from any great consumption centers precludes its immediate success as a source of electrical power. Gas reserves sufficient for all present power needs surround the area on practically all sides. It would seem, then, that the problem is not one of power conversion, but of power conservation.

Proposals attacking the wastage from other angles were included in two bills introduced in the Texas House of Representatives last week. Sponsored by Representative H. K. Stanfield of Amarillo, and signed by other members of the Panhandle, the proposals advocate certain state powers over pipe line activities. One bill would require pipe line companies to purchase gas from all producers. The other would give them one year after enactment of the bill to retire from production in the field.

CANADIAN GASOLINE IMPORTS

OTTAWA, Canada, Jan. 26.—Figures compiled by the Department of Trade and Commerce show that imports of casinghead gasoline into Canada in October totaled 1,878,792 gallons, worth $91,657, compared with 6,888,201 gallons worth $408,425 in September. Gasoline lighter than .8235 specific gravity imported in October totaled 1,606,033 gallons worth $145,308, compared with 1,393,307 gallons worth $131,109 in September.


A Leading Tobacco Blender says:
Only the Center Leaves
THE LEADING GASOLINE BLENDERS say: WARREN
Just as people want to know what is in their cigarettes, their food and clothing, and other commodities, they are becoming also "gasoline-conscious". A rapidly growing number of major refiners know that natural gasoline is the one blend to bring about a perfectly balanced fuel. They want a knockless, quick-starting, carbon-free, uniform gasoline—and the wise blender knows that stabilized natural gasoline holds the answer.
The Warren Petroleum Company, with the entire production of a large number of well located plants available, and huge transportation and storage facilities, is equipped to supply you with Warren Natural Gasoline in any part of the world. Make your requirements known to Warren.
Export Terminal facilities, Norsworthy, Houston, Texas.
WARREN PETROLEUM COMPANY
National Bank of Tulsa Bldg., Tulsa, Oklahoma
Manufacturers, Exporters and Marketers of "Just Natural Gasoline"
JUST NATURAL GASOLINE

NATURAL GAS DEVELOPMENTS

Increase in Customers by Michigan Company

MUSKEGON, Mich., Jan. 26.—Officers and directors of the Muskegon Gas Co., subsidiary of the American Light & Traction Co., were re-elected at the annual meeting at which reports showed a 20 to 25 per cent increase in volume of business during 1934, with prospects of greater increase during 1935 with natural gas from the Austin Township, Mecosta County, Pool. An increase of about 11 per cent in the number of customers from slightly over 8,000 as of January 1, 1934, to more than 9,000 as of December 31, 1934, was reported. Sendout reached 314,000,000 feet with most of the increase over a 250,000,000-foot sendout in 1933 during the month of January when more than 54,000,000 feet, or nearly 2,000,000 feet a day, was sold.

Officers are: President, Chester N. Chubb, of Chicago, vice president of A. L. & T.; vice president and general manager, Dean W. Flowers, Muskegon, and secretary-treasurer, G. J. Zorn, of Muskegon. Directors include the officers and R. B. Brown, of Milwaukee, former president; Fred J. Loewe, Henry E. Morton, Otto A. Seyforth, William E. Thornton and George W. Zinky, all of Muskegon.

Reductions in domestic gas heating rates which would bring an estimated saving of about $4,000 annually to Mount Pleasant, Mich., consumers was proposed to the city commission by N. H. Gellert, president of the National Public Utilities Corp., parent concern of the Gas Corp. of Michigan.

The new schedule filed with the State Public Utilities Commission in Lansing, proposes a reduction in the present domestic net rate from $1.40 to $1.30 for the first 1,000 feet, a cut from $1.10 to $1 for the next 1,000 feet and a rate of 80 cents for the third step of all over 2,000 feet a month. No change is proposed in the present house heating rate of 40 cents net.

Mr. Gellert also offered a profit-sharing plan, which if approved, might bring additional reductions ranging from $2,000 to $8,000 annually, according to his estimates. The city commission, which previously rejected a lesser reduction estimated at $1,200 a year, approved the proposed new schedule yet to be acted upon by the State Commission before final approval.

First commercial use of natural gas from an Ogemaw County well will be started soon with the completion of a small pipe line from the Malloy-Dack well to the West Branch Creamery in the village of West Branch, Mich. Upper Traverse gas has been used previously only for drilling wells. Little gas occurs with oil in the Dundee in Ogemaw County wells which must be acid treated and pumped for production.

Los Angeles Is Suing Southern on Franchise

LOS ANGELES, Calif., Jan. 26.—The Southern California Gas Co. has no franchise to furnish gas to Los Angeles patrons for purposes other than illumination, the city of Los Angeles contends in a suit filed in the Superior Court.

For its use of the streets to provide gas for other purposes than lighting in the past the city asks $466,506 damages of the gas company. An injunction to restrain the company from further use of the streets without a franchise also is asked.

The suit asserts that the utility company is furnishing gas for heat, power and cooking without a franchise for these services. According to the complaint the $466,506 is 2 per cent of the gross income of the company, which is held to be a fair assessment for the use of the streets.

Dallas Has Dependable Supply Experts Report

DALLAS, Tex., Jan. 28.—"Dallas has a dependable supply of gas of a heating value nearly 50 per cent greater than its franchise requirements; service and pressure are adequate as evidenced by our own investigations and by records of the Supervisor of Public Utilities," according to a report of experts filed with the city council.

Martin Weiss, president of the Associated Leagues west of the Trinity, asked that any action on the report be held up until his organization could read the findings and report on the dilution or stabilization of natural gas.

N. C. Hammer, Landon C. Moore and W. J. Powell made the report on "dilution of natural gas at Joshua stabilizing plant of the Lone Star Gas Co." They found that some stabilization of the West Texas gas is necessary to make it interchangeable with the Shamrock and Oklahoma gas so the fuel will work satisfactorily in the same burners without adjustment.

"Such stabilization should be limited, however, so that the West Texas gas would not be diluted to a degree beyond that necessary to accomplish that result," the experts declared. They found that "under a broader and more practical definition of natural gas, we believe that the stabilized gas from the West Texas fields is natural gas."

The report pointed out that the Dallas Gas Co.'s franchise requires it to furnish gas with a minimum heating value of 740 B.t.u. per foot of natural gas. Dallas has been for years supplied with gas of standard heating value of about 1,070 B.t.u.'s per foot, the report said.

FORT WORTH SURVEY

FORT WORTH, Tex., Jan. 28.—The city council will take no action upon a gas rate survey by the city engineering department until after disposal of pending litigation over its ordinance banning the dilution of gas delivered here.

Councilman Harrell said the 2 to 10 per cent rate reduction the report held would be possible was less important than the saving to consumers if the nondilution ordinance can be enforced.

Assistant City Attorney Floyd told Harrel that in his opinion the dilution ordinance would be upheld by the courts.

HOPE BUYS FROM CABOT

Hope Natural Gas Co. has announced that it has acquired the holdings of Godfrey L. Cabot, Inc., of Boston, Mass., in West Virginia. The holdings of Cabot, with offices at Charleston, W. Va., include 110 producing wells, 100 miles of pipe line, ranging from 2 to 8 inches, and the rights to sell to 800 domestic consumers along Coal River in the Seth and Madison sections of Boone County, West Virginia. Hope officials said the personnel will not be changed.

TO BUILD MUNICIPAL PLANT

Plans are being considered for going ahead with construction of a municipal gas plant at Hooker, in Texas County, in the Oklahoma Panhandle. The bonds have been voted. Negotiations are being made with the B. & M. Construction Co. which built the plant at Guymon.

Kansas Commission Hears Testimony on Gas Leases

TOPEKA, Kans., Jan. 28.—On the resumption of the investigation by the Kansas Corporation Commission, the value and extent of the gas leases held by the Cities Service Gas Co. was taken up. The hearings were recessed in December.

H. L. Eastman, Doherty engineer, introduced 15 volumes, which, he explained, contained itemized data of 5,000 leases held by the Cities Service Gas Co. and its subsidiaries. The productive leases had cost the company $969,000, while the nonproductive leases had cost $3,500,000, he testified.

The total acreage under lease for gas, as shown by the company's exhibit, was 1,017,935. The total productive acreage was 284,003, while the leases classified as nonproductive acreage totaled 733,932. Included in that classification is 8,792 acres under lease for storage.

R. D. Parker of Austin, Tex., formerly in charge of oil and gas conservation for the Texas Railroad Commission, said gas reserve holdings of the Doherty companies in the Amarillo Field probably would not exceed five years unless the stripping plants and carbon black manufacturers were curbed.

The witness said that every day 1,000,000,000 feet of gas was being released into the air after the processing plants had taken from it the ingredient that was useful to them. At that rate, Mr. Parker testified, the rock pressure of the wells in the field ultimately would be reduced and the expected life of the field might only be five years. He said because of that condition, the Cities Service Gas Co. and its affiliates would be obliged to hold other untouched reserves to supply their customers. Mr. Parker said the wasted gas would more than supply the daily requirements of all of the pipe lines taking gas from the Texas Panhandle.

The annual requirements of the Cities Service Gas Co. and its subsidiaries, it was shown in the testimony, was approximately 60,000,000,000 feet, a quantity that would be supplied from the waste of two months. Mr. Parker said there were 43 active gasoline absorption plants operating in the Panhandle and 25 carbon black plants.

Mr. Welch asked the witness if the gas was made useless by the removal of an ingredient in the plants. Mr. Parker testified the gas was just as good for commercial purposes after it had been run through the absorption plant as in the raw state.

"Then," suggested Mr. Welch, "the pipe line companies probably could buy that gas at a very low price?"

"Yes," Mr. Parker testified, "it probably could be bought at a very low figure."

"How much does the processing plant pay for the gas?" Mr. Welch asked.

The witnessed explained the gas was not purchased by the thousand cubic feet, but was paid for by the gasoline processor on the basis of the price received for the casinghead gasoline removed from the gas.

Mr. Parker explained that the average amount of gasoline recovered from 1,000 feet of gas was slightly less than three-tenths of a gallon. The market price of the recovered gasoline at present, he said, was 2¾ cents a gallon.

The revenue from 1,000 feet of gas, Mr. Parker testified, would be nine-tenths of a cent. The owners of the wells from which the gas is produced would receive one-fourth of that, or approximately twenty-one one-hundredths of a cent per 1,000 feet of gas.

The producer would have to pay from his receipts a royalty of one-eighth, so that the owner of the land would receive three one-hundredths of a cent per 1,000 feet of gas taken from his land.

It is contended by the company that the gas at the well costs them from 3 to 10 cents per 1,000 feet.

R. J. Wallace of Tulsa, said the company's leases had a value of $15,250,000, based on the present market value. C. Don Hughes of Amarillo, a consulting geologist employed to make a study of the lease properties, testified the value was in excess of $12,500,000.

According to witnesses, the acre value of the leases in the Amarillo Field would be near $75, and in Hugoton $45.

Mr. Hughes testified that of the 1,000,000,000 feet of gas discharged into the air daily, only 35 per cent was sweet gas that would have an immediate commercial market use. The other 65 per cent was gas containing sulphur, designated as sour gas, and unfit for burner tip use without special treatment for the removal of the sulphur.

Mr. Hughes' estimate of the probable life of the Amarillo Field was 10 to 15 years.

The final witness before adjournment to February 5 as announced by Homer Hoch, chairman, was H. O. Caster of New York, head of the gas division of Henry L. Doherty & Co. Mr. Caster said the company was threatened in Texas with taxes which might compel it to get its gas from fields in Oklahoma; that special taxes of all kinds were being proposed which, if applied to the company, would be a burden; that another company in which the Doherty interests have a hand is threatened in Illinois with a tax of 15 cents per 1,000 feet, and he charged that a coal lobby in Washington was fostering a move there for a tax of 15 cents per 1,000 feet on all natural gas sales.

Five-Year Franchise Oklahoma City Plan

OKLAHOMA CITY, Okla., Jan. 28.—Declaring he favors a franchise election for the Oklahoma Natural Gas Co., Councilman W. A. Henderson said he is considering a plan in which the gas company would be offered an election on a five-year franchise.

Should the electorate reject a short-term franchise, its action could be taken as an indication of public demand for a city-owned gas plant, Henderson said. If the franchise were voted, the city would not have lost its opportunity to acquire the plant, or built one, under more propitious circumstances.

Henderson believes this not a propitious time for the proposal of gas plant bonds because the city is likely to be faced by demands for other issues to defray public works costs this year.

Two other advantages in a short-term franchise were cited. The city would be in a position to collect a large franchise tax, which is not being collected now, and proponents of a municipal gas plant would have more time to perfect their organization and campaign.

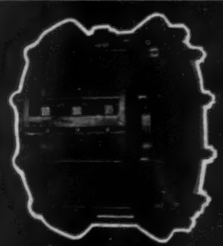
COMING MEETINGS

Southern-Southwestern Regional Gas Sales Conference, Dallas, Tex., February 20, 21 and 22. Chairman, W. A. Hudson, Birmingham Gas Co., Birmingham, Ala.

Eastern Natural Gas Sales Conference, William Penn Hotel, Pittsburgh, Pa., February 28 and March 1. Chairman, W. L. Hutcheson, Manufacturers Light & Heat Co., Pittsburgh, Pa.

FOR *QUICK* REPAIRS
USE THESE SPLIT SLEEVES

When steel pipe or steel pipe joints break or leak, repair them quickly and *permanently* with a Dresser Split Sleeve and save time, trouble, and money. Such repairs can be made by ordinary labor—in most cases without interruption of the service. For emergency repairs, a Dresser Sleeve or two in stock may save hundreds of dollars. There's a Dresser Repair Sleeve for almost every type of leak. When ordering, specify outside diameter of pipe, operating line pressure, and kind of repair to be made. Rush orders are given special attention.



STYLE 52-A

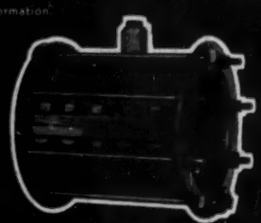
This Split Sleeve will completely enclose and permanently repair *plain circumferential welds, screw collars, welded bell and spigot joints* and *double bell welded joints*. It will also cover splits or holes in the pipe up to 8" in length. Style 52-A is recommended for working pressures up to 500 lbs. per sq. in. and is available in all the standard steel pipe sizes from 4" I.D. to 26" O.D. inclusive. Write for further information.

STYLE 54-A

The style 54-A has sufficient inside clearance to completely enclose and permanently repair *leaking joints of the bolted coupling type*. It is recommended for working pressures up to 500 lbs. per sq. in. Sleeves of this style are available in all standard steel pipe sizes from 2" I.D. to 26" O.D. inclusive. Write for further information.

STYLE 73

The purpose of this light, inexpensive Split Sleeve is to enclose and permanently repair *plain circumferential welded joints* and *screw collars*, as well as splits or holes in the pipe up to 8" in length. Two or more of these Sleeves can be joined together for larger breaks. Style 73 is recommended for working pressures up to 250 lbs. per sq. in. and is available in standard, steel pipe sizes from 2" I.D. to 12" I.D. inclusive. Write for further information.



STYLES 12, 13, 50, 380 and 400

Above is illustrated a typical Dresser welded steel split sleeve of a type that is furnished when a *special pipe size* or *unusual enclosure* does not permit using Styles 52-A, 73, or 54-A. Welded steel split sleeves are built to order to meet the particular requirements of the repair. Detailed information should be furnished when ordering.

All illustrations made from actual unretouched photographs

A Dresser Sleeve On Hand Today May Save You Hundreds of Dollars Tomorrow

S.R. DRESSER MFG. COMPANY

Bradford, Pa.

In Canada: Dresser Mfg. Co., Ltd., 32 Front St. W., Toronto, Ontario

PERSONAL PARAGRAPHS

T. E. MAY, former district manager for the Phillips Petroleum Company, at Clovis, N. Mex., has been transferred to Lubbock, Tex., as district salesman.

• • •

R. O. LAWRENCE, in charge of the land department, Gulf Coast division, for Sinclair Prairie Oil Company, has returned from a business trip to San Antonio, Tex.

• • •

N. P. ISENBERGER, geologist for Phillips Petroleum Company, with headquarters at Houston, Tex., has returned from a business trip to Bartlesville, Okla.

• • •

V. D. BOLTON, local manager of the Phillips Petroleum Company sales department at Artesia, N. Mex., has had his territory extended westward to include Tularosa.

• • •

S. Y. RAMAGE, whose more than 80 years find him still an active oil producer in Venango County, Pennsylvania, is reported one of the top flight golfers at Pinehurst, N. C., where he is wintering.

• • •

J. R. KEANE and J. R. PEMBERTON, oil umpire, were re-elected president and vice president respectively of the Western Asphalt Association at the tenth annual meeting of the organization held in Los Angeles, Calif., recently.

• • •

P. BARNEY FLYNN, oil producer of Wichita Falls, Tex., was a visitor in Tulsa last week.

• • •

NATHAN APPLEMAN, of the Central Petroleum Company, is spending several weeks at the Hollywood Beach Hotel, in Hollywood, Fla.

• • •

FRED W. DUEMLER, vice president of the Walworth Company, is making a trip through the Mid-Continent and Gulf Coast oil fields.

• • •

H. A. LAPHAM, of the Union Oil Company, has been appointed auditor of refinery accounts and will maintain offices in Los Angeles, Calif.

• • •

M. E. HARRIS, formerly chief engineer for the Tide Water Oil Company, with offices in Tulsa, has been transferred to New York City.

• • •

E. KIRBY and G. H. HALBMANN, both with the Sinclair Refining Company at Houston, Tex., returned from a business trip to San Antonio, Tex.

• • •

T. J. DONOGHUE, executive vice president of the Texas Company, Houston, Tex., accompanied by his family, spent several days in New Orleans.

• • •

W. L. FAUST and H. W. LAKE headed a party of Socony-Vacuum Oil Company officials, who completed a survey of aviation business conditions on the Pacific Coast.

• • •

O. K. WING, treasurer of the Phillips Petroleum Company, is reported as making satisfactory improvement after another operation at Johns Hopkins Hospital in Baltimore, Md.

• • •

CHESTER H. MILLIKEN, with the Zingery Oil Map Company, Fort Worth, Tex., was married to MISS LOLA McFARLAND, with the Fort Worth Press, in that city, leaving immediately after on an extended honeymoon.

J. M. LOFFLAND, drilling contractor, of Tulsa, was a business visitor to Houston, Tex., recently. He flew down in his airplane.

• • •

JOHN MESSNER, producer, of Knox Pa., has been released from West Penn Hospital, Pittsburgh, Pa., and will resume his activities shortly.

• • •

ALEX CHITWOOD, with the land department for Magnolia Petroleum Company, at Dallas, Tex., was a business visitor to San Antonio, Tex.

• • •

J. HOWARD MARSHALL, member of the Petroleum Administrative Board, Washington, D C., and MRS. MARSHALL are in Los Angeles, Calif.

• • •

J. A. STRACK, of Cut Bank, Mont., a member of the R. C. Tarrant organization, has returned from spending the holidays at San Diego, Calif.

• • •

J. D. EXNER, district petroleum engineer for Humble Oil & Refining Company, San Antonio, Tex., division, has been transferred to the Andrews district in the West Texas division.

• • •

W. C. ROBERTSON, formerly in charge of the Sugarland district, for Humble Oil & Refining Company, has been transferred to Wink, Tex., where he will have charge of the Pyote district office, as chief clerk and warehouseman.

CLAYTON G. DORN, Bradford Field oil producer, is at Miami Beach, Fla., until sub-zero temperatures leave Pennsylvania.

• • •

G. R. WHITNEY, office manager for the Chemical Process Company, Breckenridge, Tex., has been spending the past few weeks in Kansas and Oklahoma on business.

• • •

J. H. PRESSLEY, head of the land department and office manager of the Sun Oil Company, Dallas, Tex., has just returned from a two weeks' business trip in Alabama and Mississippi.

• • •

CARLOS KUREGEL, in the scouting department for Shell Petroleum Corporation, at Houston, Tex., attended the funeral of his grandmother, who passed away at Dallas, Tex., the past week.

• • •

DR. van HOLST PELLEKAAN, vice president of exploration, with Shell Petroleum Corporation, at St. Louis, Mo., made a business trip to the company's offices at Houston, Tex., last week.

• • •

AUBREY BOYD, formerly assistant pipe line foreman of the Shamrock district for the Lone Star Gas Company, has been promoted to foreman and transferred to the Long Lake district. Headquarters will probably be at Palestine, Tex.

• • •

MR. and MRS. GEORGE P. HILL, of Fort Worth, Tex., are spending a week in Mexico.

• • •

R. BLAINE JOHNSON, superintendent for the Simms Oil Company, Dallas, Tex., has just returned from a business trip to points in New Mexico

• • •

DR. SAMUEL M. MAYFIELD, Linfield College, McMinnville, Ore., has been appointed state geologist for the State of Oregon, by GOVERNOR C. H. MARTIN.

• • •

B. O. LILLY, formerly an independent operator at Pampa, Tex., has been made district representative for the Hughes Tool Company in the Panhandle district.

• • •

K. P. HART, land man for the Texas Company at Midland, Tex., was named a director of the New Mexico Oil and Gas Association at its annual meeting held recently.

• • •

R. L. INGLISH, production superintendent for the Sun Oil Company for the West Texas and eastern New Mexico district, has been placed in charge of the newly opened production offices at Odessa, Tex.

• • •

S. H. CASTEEL has been elected president of the Fort Worth Geological Society, ALAN BRUYERE, division geologist of the Texas Company, vice president, and C. D. CORDRY, petrographer, Gulf Production Company, secretary-treasurer.

• • •

OTIS F. BEATY is now in charge of the land department for the Magnolia Petroleum Company at San Antonio, Tex., succeeding ALEX CHITWOOD, who was recently transferred to the main offices at Dallas, Tex., and promoted to assistant of the head of that department. Mr. Beaty was formerly located in Kansas for the company.

DO YOU REMEMBER?

From The Oil and Gas Journal Files

25 Years Ago

January 29, 1910

Because a bolt of lightning struck the earth on Mrs. Josie Tinneborn's farm at Madison, Okla., opening up an oil seepage, Mrs. Tinneborn has organized the Prairie Valley Oil Co., and will drill a test for oil. It is in Beaver County.

The headquarters of the Frick-Reid Supply Co., incorporated in Indian Territory, will be removed from Bartlesville to Tulsa. Frank Sowers is general manager. Thomas Swindler is manager of the Tulsa store of the company.

Nelson K. Moody, of Titusville, Pa., has been made assistant general manager of the Prairie Oil & Gas Co., with headquarters in Independence, Kans. Mr. Moody will relieve John J. Whetsel of the Prairie's field work, permitting Mr. Whetsel to devote all his time to his position as treasurer of the company. Superintendent of Production John Bennett will move his offices from Independence to Tulsa.

A new institution, to be known as the Exchange National Bank, is to be organized in Tulsa and P. J. White, district manager of the Oil Well Supply Co., will be its first president. Ample capital has been provided.

20 Years Ago

January 28, 1915

The District Court at Atoka, Okla., decides that the Texas Co. is a competitor of the Standard Oil Co., and not one of the Standard's subsidiaries, as Attorney General West and former Governor Haskell were trying to prove.

Dana Kelsey, who resigned as superintendent of the Union Indian Agency at Muskogee, Okla., is going with an oil company, but declines to tell the public and press the name of the company. He helped the guessers by admitting that his headquarters will be in Tulsa.

J. George Wright will be appointed superintendent of the Osage Indian Reservation, in Oklahoma.

R. J. Straight, of Bradford, Pa., prominent eastern oil producer, dies at the home of his son, H. R. Straight, in Bartlesville, Okla.

10 Years Ago

January 29, 1925

Automobile registrations in the United States in 1924 were 17,731,486, a gain of 16.5 per cent over 1923.

Completions in 1924 in the United States totaled 21,894 wells.

The price of Oklahoma, Kansas, and North Central Texas crude oil ranges from $1 for below 30 gravity, up to $1.85 for 41.6 gravity and above. Pennsylvania Grade crude is $3.25 and $3.35, with a premium on Bradford-Allegany crude.

Mariand Oil Co. contracts to sell Humble Oil & Refining Co. 7,000,000 bbls. of Big Lake, Tex., crude in 1925.

C. L. HIGHTOWER, head of the safety department for the United Gas System, Houston, Tex., was in Longview, Tex., during the week, attending to company business.

* * *

R. E. (DICK) NELSON, in the land department of the Stanolind Oil & Gas Company, has been transferred from the Midland, Tex., office to Houston, Tex. FRANK FULK will be moved from the Houston office to Midland.

* * *

GLENN HARROUN, production superintendent for Sinclair Prairie Oil Company, with headquarters at Fort Worth, Tex., visited the company's office at Houston, Tex., last week. He made the trip by air, flying his own plane.

* * *

CLYDE A. MARTIN, with the California Company at Midland, Tex., was married to MISS KATHLEEN HAYNES, assistant editor of the Breckenridge American, at the home of the bride's parents in Breckenridge, Tex.

* * *

A. C. RUBEL, of the Union Oil Company and C. P. ANDERSON, of the Richfield Oil Company, recently addressed the Los Angeles Basin Chapter of the American Petroleum Institute at a meeting held in the Shell Recreation Hall at Long Beach, Calif.

* * *

R. R. BLOSS, vice president, and J M. AITKEN, eastern sales manager, both with the International Derrick & Equipment Company, Columbus, Ohio, attended the annual Mid-Continent and Gulf Coast sales conference held at the Baker Hotel in Dallas, Tex. C. M. POWELL, of Tulsa, district manager of the company; J. N. DWIGHT, of Oklahoma City, Okla., and others also attended the conference.

* * *

DAVID B. McCALMONT, crude oil producer, of Franklin, Pa., is in Cleveland, where MRS. McCALMONT is undergoing treatment.

* * *

G. D. THOMAS, geologist for Shell Petroleum Corporation, with headquarters at Shreveport, La., visited the company's offices at Houston, Tex., the past week.

* * *

ALTON C. ALLEN, geologist, at one time with the old Southern Crude Purchasing Company, has become affiliated with the Rowen Drilling Company of Fort Worth, Tex.

* * *

JOHN T. BARNETT, president of the Mountain Producers Corporation, and a member of the Democratic National Committee, of Denver, Colo., is on a trip to California and will return by way of the Panama Canal.

* * *

T. O. GRISELL, T. P. THOMPSON, JR., and D. W. DALY, all of Bradford, Pa., are new directors on the board of Kendall Refining Company. Mr. Thompson is president of the Pennsylvania Grade Crude Oil Association, and Mr. Grisell was executive secretary until his resignation last October.

* * *

J. E. MOOREHEAD, S. H. HARTWELL, and GEORGE H. SHELDON will hold jobber meetings during February and March at important marketing centers throughout the Middle West in the interests of the sale of Pennsylvania Grade Crude Oil Association products. The trip will provide for exhibiting and explaining the research work of the association.

* * *

L. H. McBEE, formerly in the title department of the Sun Oil Company at Tyler, Tex., has been transferred to San Antonio, Tex., to scout the fault line. W. J. HARDY, who has been scouting in the San Antonio district, has been transferred to the land department. DENNIS CHAPIN has been transferred from the Dallas, Tex., office to fill the vacancy at Tyler, made by Mr. McBee's transfer.

Got Much Training in Foreign Fields

R. Ogarrio, vice president of the Texas Corporation and vice president in charge of production of the Texas Company, its principal operating unit, obtained a large part of his early experience in the oil fields of foreign countries. He joined the Texas Company in 1916 in Tampico, Mexico, and later was appointed general superintendent in charge of operations for the Texas Company of Mexico. He was in that country during the period of its greatest activity in the production of crude oil.

R. OGARRIO

In 1923 he was assigned to supervise the exploration work of the company in South America. Two years later he was appointed manager of the Texas Petroleum Company and in addition to these duties he was appointed assistant to the vice president in charge of production the same year. In the last-named position he became familiar with the company's widely scattered production operations in all the principal fields of the United States.

In December, 1928, Mr. Ogarrio was appointed to his present position in charge of all production operations in domestic and foreign fields. Under his direction many innovations have been made in the company's methods of exploration and of operating producing properties. In 1931 he was elected to the board of the Texas Company and the parent company, the Texas Corporation.

Mr. Ogarrio received his elementary and preparatory schooling in San Antonio, Tex. He took engineering courses in the Massachusetts Institute of Technology and the Sheffield Scientific School, Yale University, graduating from the latter institution in 1908. He maintains his offices in the New York headquarters of the company.

PAUL SNETCHER, of Snetcher & Pittman, Inc., Oklahoma City, Okla., has returned from a field trip on the Gulf Coast where he visited company branches at Scott, La., and Houston, Tex.

* * *

RAY INGRAHAM, fuel oil and asphalt specialist of the Union Oil Company, was in Los Angeles, Calif., a week or so ago but has subsequently returned to his office in San Francisco, Calif.

* * *

JOHN S. BELL, junior petroleum engineer in the O'Connor district, Texas, has been promoted to district petroleum engineer. He replaces J. D. EXNER, who was transferred to the Andrews district, Texas.

* * *

D. E. LEGAN, production superintendent, and GUY RENEAU, engineer, both with the Tide Water Oil Company, with headquarters in the East Texas district, visited the company's office at Houston, Tex.

* * *

R. D. GWYNNE, who has been in the oil business for a number of years, has been appointed California representative of the Nurnberg Thermometer Company, Inc., and will maintain headquarters in Los Angeles.

* * *

HERMAN DAVIES, of the geological department of the Standard Oil Company of California, has returned to the Denver, Colo., headquarters of the California Company (subsidiary for the Rocky Mountain area) after spending his holidays in Minnesota.

* * *

R. OGARRIO, vice president of production, the Texas Company, New York City, has been making a tour of inspection of the oil fields of Oklahoma, Texas, Kansas and New Mexico, where the company has properties. Mr. Ogarrio is accompanied by A. C. HUNTER, his assistant, and E. D. HOPKINS, secretary, and the party is escorted through the Mid-Continent fields by L. E. BARROWS, of Fort Worth, Tex., and E. L. FILLEY, Tulsa, division managers of their respective district.

ROY B. JONES, president of the Panhandle Refining Company, Wichita Falls, Tex., has been appointed gasoline allocator of District 5 to fill the vacancy during DR. E. R. LEDERER'S absence at Washington, D. C.

* * *

LUTHER BALEW, former supervisor at Eastland, Tex., for the Railroad Commission, has been appointed proration umpire for the West Central Texas district, succeeding OMAR BURKETT of Eastland, who has been assigned to handle production and tender reports.

* * *

M. L. TERRY, petroleum engineer, production department, the Texas Company, Tulsa, has been elected president of the newly formed local Missouri School of Mines Alumnae Association, and A. W. WALKER, petroleum engineer, Stanolind Oil & Gas Company, Tulsa, is the secretary.

* * *

E. R. LEDERER, vice president, Texas Pacific Coal & Oil Company, Fort Worth, Tex., has been given six months leave of absence on request of the Planning and Coordination Committee and is moving to Washington, D. C., to become chairman of the Labor and Industrial Relations Committee.

* * *

WILLIAM GROUNDWATER, director of transportation of the Union Oil Company, has been elected vice president and director of the Marine Service Bureau, Los Angeles, Calif. At the same annual election, J. C. MACQUIDDY, of the Standard Oil Company, was named a director. The Marine Service Bureau's principal office is at Los Angeles Harbor and the committeemen and directors comprise a cross section of all steamship lines having local offices.

* * *

OTTO KOCH, president of Kendall Refining Company, is on his way to St. Petersburg, Fla., where he will spend the rest of the winter with his family.

* * *

HAROLD BYRD, independent operator of Dallas, Tex., sailed on the Isle de France for Italy where he is to join CAPT. J. F. LUCEY in making a tour of Europe.

* * *

JOSEPH JENSEN, chief petroleum engineer of the Associated Oil Company with offices in Los Angeles, Calif., has been elected a director of the Los Angeles Chamber of Commerce.

* * *

H. M. FRITTS, geologist for Shell Petroleum Corporation, with headquarters at Crowley, La., was a business visitor to the company's offices at Houston, Tex., the past week. He was accompanied by his wife.

* * *

J. C. MARTIN, senior clerk in the Gulf Coast division office of Humble Oil & Refining Company at Houston, Tex., has been transferred to the Dickinson district, where he will have charge of the Dickinson district office as chief clerk and warehouseman.

* * *

HARRY MILES, in charge of the engineering department of the Texas Railroad Commission, at Kilgore, is writing a complete history of the East Texas Field. His department has also just completed an up to date map of the field, showing all wells completed to date, and those drilling. MR. COKER, engineer with the commission, did most of the work on this comprehensive map.

* * *

H. F. CAMP, general superintendent of the refineries, the Empire Oil & Refining Company, and EMBY KAYE, vice president and director of manufacturing of Skelly Oil Company, both of Tulsa, have been made members of the central committee on refinery technology of the American Petroleum Institute. R. E. HAYLETT, of Union Oil Company, Los Angeles, Calif., is general chairman.

MARKET RECORD OF OIL SECURITIES

Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1935 High	1935 Low	Week ended Jan. 26 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1934	1934 High	1934 Low	1933 High	1933 Low
53½	48½	1,700	53½	53	53½	Amerada Corp.	774,875	N.P.	50eQ	1-31-35	$2.00	55⅝	39	47⅝	18½
25⅝	23¾	5,000	24⅞	24	24⅞	Atlantic Refining	2,673,834	$25	25eQ	12-15-34	1.00	35¼	21½	32½	12⅝
7	6⅛	7,000	6⅝	6⅛	6⅝	Barnsdall Corp. A	2,248,795	$5	....	5-11-31	....	10	5⅞	11	3
7¾	6½	24,600	7¼	6½	7	Columbia Gas & Elec.	11,610,036	N.P.	....	5-15-34	‡ .25	19¼	6⅝	28⅛	9
8⅜	7½	9,900	7⅞	7⅝	7¾	Consolidated Oil Corp.	14,218,835	N.P.	14c	10-31-34	.42	14¼	7¼	15¾	5
19⅛	16¾	9,300	18⅜	17⅝	17⅝	Continental Oil of Delaware	4,738,593	$5	25c	10-31-34	.50	22⅜	15⅜	19⅝	4⅞
18⅞	16⅛	1,300	17⅛	16⅝	17	General Asphalt	387,149	$10	....	6-15-32	....	23½	12	27	4⅝
3⅜	2¾	400	2¾	2¾	2¾	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	5⅝	2½	7⅜	1⅞
1⅞	1	100	1¾	1¾	1¾	Louisiana Oil Refining	1,302,158	N.P.	....	.....	....	3⅜	⅜	4	⅝
12⅞	11	900	11⅞	11⅝	11⅝	Mid-Continent Petroleum	1,857,912	$10	25c	11-15-34	.50	14⅜	9⅛	16	3¾
14⅝	12	600	13	12½	13	National Supply of Delaware	382,591	$25	....	5-15-31	....	21⅛	10	28⅝	4
10⅞	9¾	5,600	10¼	9⅞	9⅞	Ohio Oil Co.	6,563,107	N.P.	15c	12-15-34	.45	15⅞	8½	17⅝	4¾
8½	7	1,100	8	7	8	Pacific Western Oil	1,000,000	N.P.	40c	11-30-34	.40	9⅜	5½	9½	3
1⅜	⅞	200	⅞	⅞	⅞	Panhandle P. & R.	198,770	N.P.	....	.....	....	2½	⅝	4¼	⅜
16	14¼	7,200	15⅜	14½	15⅜	Phillips Petroleum	4,154,687	N.P.	25c	3-1-35	1.00	20⅜	13⅜	18⅜	4¾
8¾	7⅝	2,400	8¼	7⅞	7⅞	Plymouth Oil Co.	990,261	$5	4% Stk.	12-22-34	75c & 4% Stk.	16⅜	7¼	17⅝	6¾
7¾	6⅝	3,800	7⅛	7	7	Pure Oil	3,038,370	N.P.	....	9-1-30	....	14⅞	6⅛	15⅜	2½
32⅜	29⅜	1,400	32⅜	31⅜	32⅜	Royal Dutch N. Y. shares	432,224	$14	$1.35	7-31-34	1.35	39⅛	28⅝	39¾	17⅝
26⅞	21	2,200	23¼	22¾	23	Seaboard Oil of Delaware	1,204,460	N.P.	15eQ†	12-15-34	1.00	38⅜	20¾	43⅜	15
7⅞	6⅝	8,300	7⅝	7	7½	Shell Union Oil	13,070,625	N.P.	....	6-30-30	....	11½	6	11⅝	4
78¾	68¾	800	78¾	72	75½	Shell Union Oil pfd.	400,000	$100	....	7-1-31	....	89	57	61	28½
18¾	15¾	2,500	16⅞	16¾	16⅞	Simms Petroleum	461,000	$10	50c	2- 1-35	.55	17⅛	7¼	12⅝	1⅞
7⅝	6½	1,800	7⅝	7⅛	7½	Skelly Oil	1,008,514	$25	....	12-15-30	....	11½	6	9⅞	3
14⅞	13⅝	13,500	14⅛	13⅜	14	Socony-Vacuum	31,019,694	$25	15eQ	12-15-34	.60	19⅞	12½	17	6
32⅜	30⅛	7,700	31¼	30¼	30¼	Standard Oil of California	13,102,900	N.P.	25c	12-15-34	1.00	42⅞	26½	45	19½
25½	24½	8,200	24⅞	24⅝	24⅝	Standard Oil (Indiana)	15,941,894	$25	25eQ	12-15-34	1.00	32¾	23¼	34	17
30⅛	30	No sales ..	..	..	..	Standard Oil of Kansas	200,000	$10	50eQ	10-31-34	2.00	41	26	39⅞	12¾
43½	41	12,000	42½	41½	42	Standard Oil of New Jersey	25,740,065	$25	50eSA†	12-15-34	1.25	50⅛	39¼	47½	22¾
67½	65	200	67	67	67	Sun Oil	1,733,013	N.P.	25eQ	3-15-35	$1 & 9% Stk.	74¼	51½	59	35
21⅝	19⅝	5,200	20⅜	19⅝	20	Texas Corp.	9,486,417	$25	25eQ	1-1-35	1.00	29⅜	19⅝	30⅛	10⅜
4¼	3¼	1,500	4	3⅞	3⅞	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	....	6½	2½	6½	1⅜
10	8¾	5,600	9¼	8¾	8¾	Tide Water Associated	5,618,672	N.P.	....	2-16-31	....	14⅜	8	11¾	3⅛
87½	84	700	86⅛	85⅞	86	Tide Water Associated pfd.	666,524	$100	$2.	12-22-34	‖8.50	87	64½	65¼	23½
16⅜	15	1,700	15⅜	15	15¼	Union Oil of California	4,386,070	$25	25eQ	11-10-34	1.00	20½	11½	23⅜	8½
26⅛	24⅝	1,300	25¾	25	25⅜	Union Tank Car	1,200,000	N.P.	30eQ	12-1-34	1.20	25⅜	15⅝	22¾	10½
2⅝	2¼	400	2½	2½	2½	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	5¾	2	5½	2

*Ex-dividend. †Plus extras in common stock. §Plus extras. ‡Payable in 5 per cent convertible preference stock. ‖On account of accumulated dividends.

Active Oil Stocks Listed on New York Curb

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1935 High	1935 Low	Week Sales	Week ended High	Jan. Low	26 Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1934	1934 High	1934 Low	1933 High	1933 Low
33	30½	200	32	30½	30½	Buckeye Pipe Line Co.	200,000	050	75eQ	3-15-35	$3.00	38	26	39¾	25
2¾	1¾	1,100	2	7¾	1¾	Carib Syndicate	799,020	25c	....	.....	....	5½	1½	7¾	¼
147½	140	No sales ..	..	..	..	Chesebrough Mfg. Co.	120,000	$25	$1Q†	12-28-34	11.50	150	116	129	71
1½	1¼	14,500	1⅜	1¼	1⅜	Cities Service	37,804,394	N.P.	....	6-1-32	....	4¼	1¼	6¼	1½
⅛	⅜	500	⅛	⅜	⅜	Colon Oil	2,200,000	N.P.	....	.....	....	3¼	½	4	¼
⅜	⅜	100	⅜	⅜	⅜	Cosden Oil	399,687	$1	....	.....	....	3⅞	½	3⅞	1⅜
13⅜	11⅞	3,000	12⅝	11⅞	11⅞	Creole Petroleum	6,974,356	$5	....	.....	....	14⅜	9⅜	12	4¾
4⅞	4⅜	100	4⅜	4⅜	4⅜	Darby Petroleum	509,696	$5	25c	1-25-35	.50	7½	4½	8	2½
1⅛	⅞	100	⅞	⅞	⅞	Derby Oil & Refining	263,162	N.P.	....	.....	....	2¼	1	2¾	⅞
34	34	No sales ..	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	2-1-35	4.00	37	30	41¾	20
60⅞	55⅝	1,100	58¾	57	57¾	Gulf Oil Corp.	4,538,101	$25	....	10-1-31	....	76¾	49¾	62	24
48¼	44	2,900	46½	45⅝	46¼	Humble Oil & Refining (new)	8,923,935	N.P.	25eQ	1-2-35	‖1.25	49½	33¼	105½	40
17⅛	16¾	9,000	16⅞	16½	16⅝	Imperial Oil of Canada	26,857,152	N.P.	25eSA†‡	12-1-34	.92½	17⅞	12⅝	15⅞	6½
4⅛	3¾	100	4	4	4	Indiana Pipe Line	300,000	$10	15eSA†	11-15-34	.35	6⅞	3⅝	8	3⅛
31⅜	28⅞	8,400	31⅛	29⅞	29⅞	International Petroleum	14,247,088	N.P.	56eSA†‡	12-1-34	2.28	33⅜	19⅜	23½	8⅞
5	4⅜	9,100	4⅞	4⅜	4⅜	Louisiana Land & Exp.	3,000,000	N.P.	....	.....	....	5	2½	2¼	⅞
4⅜	4	300	4	4	4	Lion Oil Refining	270,000	N.P.	....	10-27-30	....	6	3⅜	9½	1¼
6¼	5¼	700	6⅛	5⅞	5⅞	Lone Star Gas	5,382,723	N.P.	15c	2-15-35	¶ .16	8⅜	4¼	11⅞	4¾
4⅝	4⅛	500	4¼	4⅛	4¼	Mountain Producers	1,682,182	$10	15eQ	1-2-35	.60	5½	4	6½	2½
13⅝	13	1,800	13⅝	13⅛	13½	National Fuel Gas	3,810,183	N.P.	25eQ	10-15-34	1.00	18⅛	13⅛	20	10
7⅜	7¼	200	7¼	7¼	7¼	National Transit	509,000	$12.50	35eSA	12-15-34	.75	9½	7	10	5½
2⅝	2½	100	2½	2½	2½	New Bradford Oil	1,445,202	$5	10eSA	3-15-35	.20	2½	1¾	2⅛	½
2⅛	1⅞	300	1⅞	1⅞	1⅞	New Mexico and Arizona	1,000,000	$1	....	.....	....	2⅜	1	1⅞	⅛
3½	3¼	No tsales ..	..	..	..	New York Transit	100,000	$5	15eSA	10-15-34	.30	4¾	3	4⅞	s
5½	5¼	100	5½	5½	5½	Northern Pipe Line	120,000	$10	25eSA	1-2-35	.50	7	4⅝	6⅛	4¼
2⅛	1⅝	1,600	1¾	1⅝	1⅝	Pantepec Oil	1,608,700	N.P.	....	.....	....	2⅝	⅞	3¾	⅛
1¼	1⅛	No sales ..	..	..	..	Ryan Consolidated	296,931	N.P.	....	.....	....	3⅜	⅞	4¼	⅝
6¼	5¾	600	6	5¾	5¾	Salt Creek Producers	1,496,859	$10	20eQ	2- 1-35	.80	7⅞	5½	9¼	3½
23¾	22⅝	1,800	23¼	23	23¼	South Penn Oil	1,200,000	$25	30eQ	12-31-34	1.20	26½	17½	22⅛	11
3⅞	3⅞	No sales ..	..	..	..	Southern Pipe Line	100,000	$10	15eSA	9-1-34	.25	5½	3½	6	2⅛
50	50	No sales ..	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	$1Q	12-31-34	5.00	47	41	43	24½
21½	18	17,000	21½	19¼	19½	Standard Oil of Kentucky	2,606,983	$10	25eQ†	12-15-34	1.50	18⅜	14⅝	19¼	8⅝
9	8½	400	9	9	9	Standard Oil of Nebraska	190,822	$25	....	6-20-34	.50	16⅞	8¼	20½	11
16¼	13	500	16¼	14	16¼	Standard Oil of Ohio	753,740	$25	....	1-3-33	....	28½	12¼	41	15½
1¾	1	2,000	1¾	1	1¾	Sunray Oil	1,610,810	$1	....	4-15-31	....	2	⅛	1½	¼
6⅞	5¾	800	6½	6	6⅛	Texon Oil & Land	936,028	N.P.	15cQ†	12-29-34	.90	11	4⅝	13¾	6¼

*Ex-dividend. †Plus extras. ‡Payable in Canadian funds. §Payable in preferred stock. ‖Includes 50 cents on old $25 par value stock. ¶Payable in preferred stock.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing and transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depths of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Incrustations of Salt on Face of Well Hole Present Problem

Perhaps you can give us some suggestions as to the best course to follow with a gas well that seems to be salting off. The well is producing from what is commonly called the Salt sand. It never has made any water and the gas is dry. The production has fallen off rapidly of late. Other wells in the district have acted the same way. A 6 5/8-inch casing string is set at the regular casing point, and 2-inch tubing is set on a gas anchor packer. A gas cage is set at the proper point, and if salt has begun to accumulate it is my belief the deposits are in the opening of the gas cage and below that point on the face of the sand. Can you tell me of some method of dissolving this salt without damaging the gas sand or injuring the tubing? I am told vinegar would be good. In discussions of the trouble we encounter in these wells the question has arisen as to whether crude oil as it comes from the earth ever contains salt. As these wells make no water, the answer to this question would seem plain, but I would appreciate a statement from you on this point.—E. S. E.

Your question is not complete enough to permit a definite recommendation as to the best method to follow to clean the face of the sand. It is assumed the incrustation is salt (sodium chloride), but without samples of this crust being secured and analyzed it is impossible to say what is the best solvent to use in the well.

It is reported that this Salt sand of the southeastern Ohio area is of Pennsylvanian age and probably of marine origin. From this it may be assumed that salt was laid down with the sand when it was covered by the ancient sea and this sand later was charged with hydrocarbons in the form of crude oil and gas.

Of the sands of Pennsylvania that may be correlated with the Salt sand of southeastern Ohio it is stated that all of these sands are of marine origin, and have a much lower permeability than the average permeability of the sands in the nearby oil fields. These gas-bearing sands were certainly saturated with salt water before migration took place, since the wells have a tendency to "salt up" after a long period of production. This fact indicates that small quantities of highly concentrated water still remain in them. The quantity of water present, if any, however, is so small that it is readily vaporized by the movement of the gas into the well.

It is therefore probable that the sands in these fields, where porous, were completely dehydrated during the period of gas migration, and that migration and accumulation continued until the rocks were sufficiently compacted and cemented to prevent the escape of additional gas, coming from the source beds, to the surface.

Crude oil, or its products, do not dissolve salt and your statement that the well has not made any water is probably only partly correct. There must have been water present in some form to dissolve the sodium chloride, if salt is now clogging the pores of the sand and accumulating on the gas cage and tubing.

You may have heard a statement that "crude oil contained salt in solution." This is not strictly correct. In making an analysis of crude oil the chemist may report the presence of sodium chloride, but it was carried in water entrapped in the oil. The percentage of water may be very minute, but if salt is found it is safe to assume that at one time or another water has been present and the salt has been dissolved in it.

If your sand is covered with a crust of salt the best means of washing the hole would be to introduce water, as pure as is obtainable (rain water preferably), with a bailer and then to agitate it by moving the bailer up and down for half an hour or so to dissolve the salt. Then bail out the water, although it should be carefully measured before and after its introduction so that you may know just how much has been left unrecovered in the hole. Repeat the whole operation till the water you bring up is virtually clear of salt.

You can take samples of the water bailed out and have them analyzed to determine their salt content, or you can apply a pretty fair field test by simply tasting the water and noting its saltiness. It should be pointed out that this test by tasting is of value only if the substance adhering to the face of the sand is salt and nothing else. The best way is to have a thorough chemical analysis made and thus find out exactly the character of the incrustation, which may contain wax and other sediments which are not soluble in cold water, while common salt is most soluble in this fluid.

If water is heated to a boiling temperature slightly more salt can be dissolved, so it is not of any advantage to introduce hot water except for the possible effect it may have upon other than salt deposits. If paraffin and other sediments are mixed with the salt on the face of the sand, hot water might remove more of these incrustations than cold water, but there is no apparent reason for using vinegar, which is a weak solution of acetic acid (about 3 per cent) because if an acid is desired to dissolve any of this incrustation there are many other kinds available that would serve this purpose better.

In summarizing, it is recommended that you first determine definitely the analysis of the incrustation and ascertain the percentage that is soluble in cold, pure water such as rain water or condensates from steam, and then determine the best solvent available for those portions of the incrustation that will not dissolve in water or the portion of the whole sample that is soluble in hot water or could be removed by steaming.

If steam is effective it could be introduced through the tubing and permitted to condense at the bottom of the hole. This would serve as a means of providing pure water in the bottom of the hole and also supply heat to melt wax or other materials that might be acted upon best by heat. The water could be removed from the well by pumping or bailing and it is recommended that samples be analyzed to determine what has been removed from the well by the treatment.

Why Was It Called That?

MARU

You may have noted the names of Japanese oil tankers contain the word "Maru," as "Kyokuto Maru," "Toa Maru," etc. As a matter of fact the word forms part of the name of every Japanese commercial vessel from a steam launch to an ocean liner. Literally it means roundness and it connotes completeness. In ancient times the Japanese added it to the names of persons of noble birth and to the strongly defended parts of castles. Thus there were "Hitomaru" and "Kiyomaru," applied to noble personages. For the castles we find "Honomaru" (inner citadel), "Ichonomaru" (first citadel) and "Ninomaru" (second citadel). Conveying this same idea of exalted regard, the denomination "Maru" was applied to favorite yachts built by the Shogunate before the restoration of the Japanese monarchy, because they were considered floating castles. Use of the designation was extended to vessels transporting costly merchandise and eventually to all commercial craft.

Vapor-Tight Wooden Tanks Solve Sulphur Problem for Some

When I lived in a Pennsylvania oil town as a boy wooden oil tanks were a common sight. Couldn't those old-fashioned wooden tanks be used now on leases to solve the corrosion problem where there is much sulphur in the oil? My understanding is that the sulphur does not attack wood, or at least certain kinds of wood. My recollection is that most of the tanks used in the early Pennsylvania fields were made of white pine, with oak used in some cases.—A. A. N.

Tank manufacturers now make wooden tanks provided with a tight deck and with gas-tight fixtures that permit holding as much pressure on the oil as is requisite to prevent evaporation. These tanks should not be confused with the wooden ones you used to see back in Pennsylvania in your boyhood. The modern wooden tanks are scientificially designed to fulfill a specific purpose. They have straight or bowed sides and might properly be called vats. They are built in all sizes from 60 to 2,000 bbls. capacity.

The wooden tanks are not meant to take the place of the regular steel tanks for ordinary field service but have been developed exclusively for corrosion fields. They are used to handle the gas, oil and water direct from these wells and to store oil on the leases preparatory to removal by pipe lines.

Specifications for a typical tank of this kind are somewhat as follows: Deck and bottoms made of air dried California redwood irrigation grade selected from No. 1 heart common with normal thickness of 2 inches. Staves also made from air dried California redwood clear all heart tank stock grade with normal 2-inch thickness. Vertical supports, deck stringers, column bases, cap plates and wind break all made from No. 2 common grade air dried California redwood.

Hoops for these tanks are usually made out of round steel bars three-fourths of an inch in diameter and tightened with turnbuckles. Some builders prefer seven-eighths inch round iron for the lower hoops and five-eighths inch for the upper.

The staves usually are provided with grooves in the matched edges into which water seeps from the water seal maintained on the top of the deck. These water grooves are one-quarter inch deep and V shaped so that when matched they form a one-half inch diamond shaped vertical trough from the water seal on the deck to near the bottom of the tank. This water seal prevents the staves from drying out and oil and gas from escaping from the tank.

The tanks are fitted with noncorrosive fixtures, some made of aluminum and other parts made of cast iron, but whatever kind of metal is used the fixtures are fastened to the tank by some method that does not expose iron or steel bolts to the corrosive action of the sulphur oil and gas or the water.

Some tank staves are slightly curved so that when the tank is completed it resembles a barrel. Other tanks have perfectly straight staves and the sides of the tanks are vertical when the staves are in place. While there are arguments in favor of either type the general idea is much the same, and that is to provide a sturdy tank with tight bottom and head that will present no metal parts to the fluid or gas contained in the tank.

Distribution of Stock by Jersey to Employes

NEW YORK, Jan. 28.—The Standard Oil Co. (New Jersey) announced this week it had completed distribution of more than 400,000 shares to 16,500 employes who participated in the fourth stock-acquisition plan. These shares, which have been accumulated by trustees of the plan over a three-year period which ended December 31, 1934, have a market value of $16,000,000. In connection with the distribution the company issued the following announcement:

"With delivery of the stock acquired in the plan just wound up, employes have purchased since 1921 a total of 2,117,000 shares of the company's stock. Approximately half of these shares have been disposed of by the original subscribers, but with the current distribution, present and former employes, many of whom are now annuitants, hold 4 per cent of the company's capital.

"The stock-buying plan is a part of a far-reaching program for economic security which has been worked out between employes of the Standard Oil Co. (New Jersey), the stockholders and management during 16 years of operation under industrial representation. In many respects these plans provide the major features of the various proposals now under consideration at Washington as a part of the administration's social legislation program. The right of workers to deal collectively with management, which was incorporated into the National Recovery Act in the much-discussed paragraph 7a, has been enjoyed by employes of Standard Oil Co. (New Jersey) since 1918, when they voted to establish the industrial representation plan."

Michigan Fields

(Continued from Page 139)

upper Traverse with completion probable within two weeks.

Montcalm-Mecosta Counties activity had been slowed down by severe weather with 11 tests in various stages of development in Mecosta and five being carried in Montcalm.

Western Michigan operations also were proceeding slowly with no completions although several wildcats were being watched with interest as they neared possible completion.

Wildcat Developments

Pure Oil Co.'s No. 1 Lucy Baker, SW NW SE Section 15-13n-5w, Fremont Township, Isabella County, after striking a show of gas in the Marshall though not in commercial quantities, was being watched with interest as a promising wildcat near the village of Winn. Jasmid Oil Corp.'s No. 1 Coopersville State Bank, C NW SE Section 22-13n-10w, Aetna Township, Mecosta County, near Morley, is a newly starting test expected to attract considerable attention in the territory where several major companies hold blocks of acreage. Talbot Oil Co.'s No. 1 McPherson estate, NE NE NW Section 35-3n-4e, Howell Township, Livingston County, was being prepared for casing to 4,790 feet before drilling into the Trenton as one of the State's deeper tests.

New Locations

State permits dropped to four last week: Charles Weller's No. 1 Kenneth Baker, NW SW NW Section 9-9n-3w, Fulton Township, Gratiot County; M. F. Whitehill's No. 1 George Spicer, N half SW NW Section 11-17n-2w, Beaverton Township, Gladwin County, and Wiser Oil Co.'s No. 1 Thomas Horne, NE NE SW Section 19-22n-2e, and William R. Wells and Joseph A. Malloy's No. 1 Sarah N. Moss, SW SW SW Section 20, West Branch, Ogemaw County.

DRILLING METHODS

U. S. Bureau of Mines has just published Technical Paper No. 561, entitled "Mechanical Equipment Used in the Drilling and Production of Oil and Gas Wells in the Oklahoma City Field," by Gustav Wade. This paper describes drilling methods and equipment used and also goes quite thoroughly into many methods of producing the oil in this field. Copies may be obtained from the Superintendent of Documents, Washington, D. C., for 10 cents.

Kansas Wildcats

(Continued from Page 133)

RENO COUNTY

Foraker et al's No. 1 Hiett, SE SW NE Sec. 24-24-4w.
T.D. 1,285 ft.; S.D.

Kessler, Their and Skelly's No. 1 Bigger, NE SE SW Sec. 29-23-4w.
Drlg. 1,531 ft.

Privett Drlg. Co.'s No. 1 Crotts, NE NW NE Sec. 27-26-10w.
8-in. 3,212 ft.; S.D. 3,337 ft.

RICE COUNTY

Allison & Fitzwilliams et al's No. 1 Stumps, NW NW SW Sec. 4-18-10w.
Rigging up.

Foraker, Nickerson et al's No. 1 Lyons, SE NW Sec. 27-20-4w.
T.D. 1,660 ft.; running 10-in. csg.

Johnson & Carey et al's No. 1 Dyck, SE NE SE Sec. 35-22-5w.
Chat 3,483 ft.; drlg. 3,621 ft.

Lario O. & G. Co. and Reserve Pet. Co.'s No. 1 Shepherd, SW SW NW Sec. 13-22-5w.
5-in. 4,147 ft.; Siliceous 4,143-50 ft., T.D.; H.F.W.; dry and abd.

Lario O. & G. Co. et al's No. 1 Schreg, NW SE SW Sec. 22-19-4w.
T.D. 3,160 ft.; S.D.

Langston et al's No. 1 Markle, NE SW Sec. 1-20-9w.
Small inc. gas 2,931-36 ft.; T.D. 2,966 ft.; S.D.

Vickers Pet. Co. et al's No. 1 Gouldner, SE NE NW Sec. 16-18-9w.
Cellar.

Yingling et al's No. 1 Maupin, NW SW SW Sec. 1-18-8w.
Viola 3,233-39 ft.; pumped 104 bbls. oil, 2 bbls. wtr. in 24 hrs.; acidized and pumped 60 bbls. oil with show wtr.; to deepen.

ROOKS COUNTY

Stearns & Streeter's No. 1 Meyers, NE NW NW Sec. 34-9-16w.
Oswald 3,084 ft.; S.D. 3,088 ft.

RUSH COUNTY

Flynn et al's No. 1 Hartman, SW SE NW Sec. 4-18-16w.
Location.

Lario O. & G. Co. and Phillips Pet. Co.'s No. 1 Benbow, NW NE NE Sec. 12-17-19w.
T.D. 3,135 ft.; fishing.

RUSSELL COUNTY

J. Brousk and R. D. Bailey's No. 1 Kluesner, NW SE Sec. 34-15-12w.
Rig.

Blair et al's No. 1 Fink, SW NW SE Sec. 16-14-14w.
Oswald 3,055 ft.; acidized at 3,154 ft. and pumped 320 bbls. oil; 6-in. 3,246 ft.; granite wash 3,318 ft.; T.D. 3,479 ft.; H. F.W.; P.B. to 3,170 ft. and C.O.

Eldorado Ref. Co.'s No. 1 Walz, SE NE NW Sec. 29-13-11w.
Set 10-in. csg. 2,090 ft. and S.D.

Hartman & Blair's No. 1 Krauss, NE NW NW Sec. 5-15-15w.
Rig.

Hartman & Blair's No. 1 Sullivan, NE NE SE Sec. 2-14-15w.
Drlg. 2,010 ft.

Hartman & Blair's No. 1 Gurney, SE SE NW Sec. 23-14-14w.
8-in. 2,405 ft.; S.O. 2,405-20 ft.; S.O. 2,465-70 ft.; Topeka 2,665 ft.; drlg. 2,775 ft.

Lario O. & G. Co. et al's No. 1 Nuss, NW SW SW Sec. 11-16-14w.
Location.

Lario O. & G. Co. et al's No. 1 Moore, 760 ft. S and 660 ft. E, NW cor. Sec. 34-13-12w.
15-in. 528 ft.; 12-in. 1,093 ft.; salt 1,110 ft.; drlg. 1,245 ft.

Wolf Creek Oil Co.'s No. 1 Donovan, SW SW SE Sec. 10-15-15w.
T.D. 2,350 ft.; S.D.

Wolf Creek Oil Co.'s No. 1 Kraft, SW cor. Sec. 26-16-11w.
Rig on ground.

Wolf Creek Oil Co. et al's No. 1 Penn Mutual, SW cor. Sec. 23-15-15w.
Rig.

SALINE COUNTY

Dieter et al's No. 1 Herrington, NE NW SE Sec. 3-13-1w.
T.D. 2,420 ft.; U.R. 8-in. csg.

SCOTT COUNTY

Atlantic Oil Prod. Co.'s No. 1 Vanimen, C SE NE Sec. 15-20-33w.
6-in. liner 4,650 ft.; pay 4,670-86 ft.; acidized and pump 572 bbls. in 24 hrs.; to D.D.

SEDGWICK COUNTY

Aladdin Pet. Co. et al's No. 1 D. Lauck, SE NE NW Sec. 21-28-2.
Drlg. 1,325 ft.

Allison & Fitzwilliams et al's No. 1 Struthers, NE SW Sec. 34-28-2w.
H.F.W. 3,176-87 ft.; T.D. 3,295 ft.; fishing.

Cameron, Derby Oil Co. and Trees' No. 1 Brainard, SW SE NW Sec. 19-24-2.
Spudded and S.D.

Magnolia Pet. Co.'s No. 1 Bartholomew, SE SE SW Sec. 30-27-4w.
Chat 3,682 ft.; 9-in. 3,692 ft.; standardising.

Syndicate O. & G. Co. et al's No. 1 Ratcliff, NE NW NW Sec. 30-26-2.
P.B. to test Mississippi lime.

STAFFORD COUNTY

Atlantic Oil Prod. Co.'s No. 1 Hohner, NW SE SE NE Sec. 31-23-14w.
Drlg. 3,160 ft.

Atlantic Oil Prod. Co. and Phillips Pet. Co.'s No. 1 Guthrie, C NW NW Sec. 16-25-11w.
10-in. 2,695 ft.; drlg. 2,660 ft.

SUMNER COUNTY

T. Palmer's No. 1 Wentworth, NW NW NE Sec. 9-35-2.
T.D. 2,550 ft.; S.D.

TREGO COUNTY

Central Commercial's No. 1 Wagg, NW NW SE Sec. 17-13-21w.
T.D. 1,157 ft.; cmtng. cave.

A. D. Morton's No. 1 Jones, SE cor. Sec. 20-12-23w.
Cellar.

Gulf Coast Wildcats

(Continued from Page 131)

Humble O. & R. Co.'s No. 8-B Kirby.
Location.

Texas Gulf Prod. Co.'s No. 3 T. S. Fitzgerald, 340 ft. S of N line and 40 ft. E of W line of lease.
Drlg. salt 2,514 ft.

Texas Gulf Prod. Co.'s No. 2 Morgan Fitzgerald, 400 ft. N of S line, C of Strip No. 2.
Drlg. salt 3,113 ft.

Texas Co.'s No. 10 Wilburn, 475.8 ft. N, 29 deg., 10 ft. W from SW cor. of lease.
Drlg. sand and shale 4,250 ft.

Yount Lee Oil Co.'s No. 8 Woodward.
Swabbing oil and S.W. 5,374 ft.

Yount Lee Oil Co.'s No. 27 Chambers Co., 400 ft. W of No. 24 and in line with Nos. 24 and 21.
Drlg. salt 3,652 ft.

Yount Lee Oil Co.'s No. 28 Chambers County, 50 ft. N of S line, direct offset to Sun's No. 10 Chambers County, Wm. Bloodgood Sur.
Derrick.

Yount Lee Oil Co.'s No. 18 Chambers, 215 ft. from N line, 1,500 ft. from W line, Wm. Bloodgood Sur.
Set whipstock 4,214 ft.; T.D. 4,465 ft.

BOLING—FORT BEND COUNTY

Allied Minerals, Inc.'s No. 1 J. H. Blackwell, 1,400 ft. from E line, 100 ft. from S line of 50-ac. of J. H. Blackwell 100 ac., John Huff Sur.
S.D. for rig repairs 4,495 ft.

Midland Oil Co.'s No. 1 P. F. Coulter, 150 ft. from S line, 4,174 ft. from W line of 100-ac. tract, Miller League No. 2.
Set screen; T.D. 4,186 ft.

Allied Minerals, Inc.'s No. 1 E. C. Farmer, James Scott League, 750 ft. SE of NW line and 150 ft. SW of NE line of Gulf Prod. Co.'s E. C. Farmer 50-ac. tract.
Replugging the hole.

Irwin Larsen et al's No. 1 J. R. Farmer, 100 ft. NW and 100 ft. SW from E cor. of 125-ac. lease, James Scott Sur.
Location.

Trans-State Oil Co.'s No. 1 Dipple, E flank of dome.
10-in. csg. at 592 ft.

THOMPSON COUNTY

Gulf Prod. Co.'s No. 10 Gubels.
7-in. csg. 5,245 ft.; T.D. 5,365 ft.; I.P. 47 bbls. per hr. through ¼-in choke; tubing pressure 580 lbs.; csg. pressure 810 lbs.

Humble O. & R. Co.'s No. 29-B Lockwood & Sharpe, 2,292 ft. W of E line, 376 ft. S of N line, 590 ft. E of No. 25.
10¾-in. csg. at 921 ft.; drlg. lime 3,560 ft.

Naylor Oil Co.'s No. 6 Gehr, 340 ft. from S line, 460 ft. from E line of No. 4 Gehr, S. Kennedy Sur.
7-in. csg. 5,297 ft.; T.D. 5,389 ft.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 41 Moore, 3,372 ft. S along W line from NW cor. of James Frazier Sur., and 2,154 ft. at R/A.
Drlg. sand and boulders 788 ft.

SUGARLAND—FORT BEND COUNTY

Humble O. & R. Co.'s No. 12 Nelson.
10¾-in. csg. 1,154 ft.; coring oil sand 3,-425 ft.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 42 Cade, N. Fitzsimmons Sur., half way between Nos. 26 and 28 and 150 ft. E at R/A.
Drlg. sand 5,285 ft.

Yount Lee Oil Co.'s No. 44 Cade.
Drlg. sand and lime 3,888 ft.

Yount Lee Oil Co.'s No. 23 Smith.
Drlg. sand, shale and lime 4,213 ft.

Yount Lee Oil Co.'s No. 3 Stewart.
Drlg. sand, shale and lime 4,395 ft.

DICKINSON—GALVESTON COUNTY

Humble O. & R. Co.'s No. 1 Schoper, C 8½ of Blk. 15, or on line between Lots 3 and 4 and center N and S, W. K. Wilson Sur. 16-in. csg. 207 ft.

Humble O. & R. Co.'s No. 1 H. O. and W. G. Jones, 750 ft. N of N bank of Bayou and center T and W, J. O. Sherman Sur.
Derrick.

Humble O. & R. Co.'s No. 1 A. F. Danielson, center of 10-ac. tract, being Lots 6 and 7 of Righter Subd., John Sellers Sur.
Drlg. shale 7,350 ft.

ARRIOLA—HARDIN COUNTY

Houston Oil Co.'s No. 3-X fee, 2,150 ft. S of N line of lease and 150 ft. E of W line of Unit X.
Coring shale 4,600 ft.

BATSON—HARDIN COUNTY

John Deering's No. 1 Cruse.
Drlg. shale 3,255 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 11-R Jordit, 300 ft. due S from No. 9-R Jordit.
Drlg. gumbo 941 ft.

SOUR LAKE—HARDIN COUNTY

Arlis Pet. Co.'s No. 1 Harkan and Langham, Dig pits.

Alpha Pet. Co.'s No. 2-A Wm. Weiss, 100 ft. W of No. 2.
Set csg. 6,660 ft.

Sun Oil Co.'s No. 3 Bernard Corp., 150 ft. from N and W lines of Lot 11, H.T.&B. Sur., Sec. 69.
Drlg. shale 7,751 ft.

GOOSE CREEK—HARRIS COUNTY

Derring's No. 1 Williams, 180 ft. from SE cor. and 55 ft. NE of Hybush's No. 3, in W. Scott upper league.
Cellar.

Humble O. & R. Co.'s No. 80 Simms-Smith, Scott Lower League, 1,000 ft. E of the most westerly W line, and 200 ft. N of the most northerly S line.
Cutting and pulling 6⅝-in. casing and Packer. T. D. 6,855 ft.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Prod. Co.'s No. 21 Taylor.
Drlg. sandy shale 5,550 ft.

Rio Bravo Oil Co.'s No. 27-A Settegast, 377 ft. S, 553 ft. W of NE cor. of Settegast "A" tract, James Hamilton Sur.
Swabbing 5,526 ft.

Rio Bravo Oil Corp.'s No. 9-A Settegast, 1,575 ft. N line, 350 ft. E line NE cor. "A" lease, J. A. Kopman Sur.
T.D. 5,411 ft.; standing.

MYKAWA—HARRIS COUNTY

Danciger O. & R. Co.'s No. 1 Williams, SW cor. of 29-ac. lease.
7-in. csg. 4,810 ft. T. D. 4,867 ft.
Waiting on cement.

West Prod. Co.'s No. 1 Medelsohm & Ryeman, Block 13, F. J. Rathes Survey.
Prepare to spud.

TOMBALL—HARRIS COUNTY

Amerada-Stanolind's No. 1 Doyle, 210 ft. from most southerly S line to C of W and E line of 34-ac. lease and approx. 4,950 ft. from W line and 575 ft. from S line of Joseph House Sur.
Drlg. shale 3,740 ft.

Humble O. & R. Co.'s No. 1, 466 ft. N of S line, 502 ft. W of E line.
Set 10¾-in. csg. 933 ft.; drlg. shale and lime 940 ft.

Humble Oil & Ref. Co.'s No. 3-A Schultz, 435 ft. E of WL, 700 ft. N of SL, C Goodrich Survey.
10¾-in. csg. 959 ft.; drlg. shale and lime 4,365 ft.

Humble O. & R. Co.'s No. 2 Gebhart, 466 ft. E of W line, 900 ft. S of N line of survey.
7-in. csg. 5,493 ft.; prepare to complete.

Humble O. & R. Co.'s No. 6-B Quilter, 466 ft. W of E line of "B" tract, 1,090 ft. N of S. line, A. Sanchal Sur.
Drlg. shale 5,520 ft.

Humble O. & R. Co.'s No. 3-A Martens.
7-in. csg. 5,585 ft.; T.D. 5,590 ft.; I.P. 33 bbls. per hr. through ¼-in. choke.

Humble O. & R. Co.'s No. 1 Melo, 525 ft. S of N line, 584 ft. E of W line of 346 acres, C. N. Pillot Sur.
7-in. csg. 5,541 ft.; prepare to complete; T.D. 5,550 ft.

Texas Co.'s No. 3 R. W. Hirsch, 510 ft. W of E line and 466 ft. N of S line of lease.
Derrick.

KITTRELL—HOUSTON AND WALKER COUNTIES

Humble O. & R. Co.'s No. 5 Shaw, 990 ft. N and 330 ft. E of SW cor. of the Shaw 100-ac. tract in Charles McEllis Sur.
Top oil sand 1,928 ft.; coring sand 1,-940 ft.

Kellough & Tucker No. 1 L. W. Huffman, 10 ft. SW, 10 ft. NW of most southerly corner of Humble Oil & Ref. Co.'s lease, Charles McEllis Survey.
Bldg. derrick.

Sunoil Co.'s No. 1 Huffman Charles McEllis Survey. Moving in rig.

VANDERBILT—JACKSON COUNTY

Imperator Oil Co.'s No. 1 Dutton, S C of Lot No. 11, Blk. 25, 450 ft. S of R.R. and 1,350 ft. W line of townsite, Ray Musquis Sur.
Rigged up and S.D.

Turman Oil Co.'s No. 1 T. H. Miller, 150 ft. each way out of E 50 ac. of Miller 100-ac. tract in Ray Musquis Sur.
Rigging up.

BIG HILL—JEFFERSON COUNTY

Yount Lee Oil Co.'s No. 1-A Pipkin, 2,640 ft. S and 2,050 ft. W of NE cor. of survey.
Drlg. shale 6,224 ft.

FANNETT—JEFFERSON COUNTY

Gulf Prod. Co.'s No. 4 Junker, 150 ft. S of N line, 150 ft. W of E line, Tug Junker 240-ac. tract, Wm. Smith League.
Drlg. sand 3,845 ft.

CLEVELAND—LIBERTY COUNTY

Blackgold Pet. Co.'s No. 1 R. D. McDonald, 20 ft. due W of Gulf Prod. Co.'s 6-C Kirby, T. Devers Sur.
T.D. 5,839 ft.; tested oil and gas on D.S. test; to cmt. csg.

William J. Colegrove et al's No. 1 State School Land & Dev. Co., 446 ft. from W line and 170 ft. from S line of survey, Clayton Rooper Sur.
Location.

Gulf Prod. Co.'s No. 8-C Kirby, 933 ft. due E of No. 1 Kirby.
10-in. csg. 996 ft.; T.D. 1,029 ft.

ESPERSON—LIBERTY COUNTY

General Crude Oil Co.'s No. 15 Moores Bluff, midway between No. 10 and No. 12 Moores Bluff.
Drlg. shale 3,447 ft.

General Crude Oil Co.'s No. 9 Davis, 1,200 ft. each way from S and E lines of lease in D. Kakernut Sur.
Comp.; no gauge, 5,872 ft.

General Crude Oil Co.'s No. 1 W. D. Kay, Malcolm Duncan Sur., 1,537 ft. along N T.D. 5,928 ft., reaming to straighten hole 5,835 ft.

HANKAMER—LIBERTY COUNTY

Gulf Prod. Co.'s No. 4 Crow & Jacobs, 150 ft. E, 420 ft. N of SW corner of lease, Section 21, H & T C Survey.
Drlg. gumbo 1,245 ft.

Gulf Prod. Co.'s No. 1 Hankomer, 350 ft. W, 420 ft. N of SE corner of George Stingler Survey.
Location.

HULL—LIBERTY COUNTY

Gulf Prod. Co.'s No. 12 W. L. Thomas, 1,-650 ft. N and 150 ft. E of SE cor. of 300-ac. tract, Jessie Devore Sur.
Drlg. shale 6,710 ft.

G. R. Brown and S. F. Bashara's No. 1 David Hannah, Jesse Devore league, 200 ft. S line, 150 ft. E line, 42-ac. Gulf tract.
Derrick.

Sterling O. & R. Co.'s No. 1 Taylor, 198 ft. S of S line of tract, and 5,500 ft. E of E line of 6-ac. tract, J. Devore Sur. Drlg. salt 4,812 ft.
Texas Co.'s No. 3 Barrow. R.U. to pump; T.D. 4,355 ft.

BUCKEYE—MATAGORDA COUNTY

United North & South Dev. Co.'s No. 1 Unit 4, Buckeye farm, J. C. Keller league, 214 ft. N line and 202 ft. E line of lease. Shut down.

CONROE—MONTGOMERY COUNTY

Humble O. & R. Co.'s No. 72 South Tex. Dev. Co., 6,000 ft. E of most easterly W line, 466 ft. S of N line of Thos Slade Sur. 10¾-in. csg. 980 ft.; drlg. shale and lime 4,811 ft.
Houston Oil Co.'s No. 11 Cartwright, N offset to No. 10 Cartwright. Drlg. shale and lime 2,575 ft.

SPLENDORA—MONTGOMERY COUNTY

A. A. Franklin, tr.'s No. 1 Cora Neff, 4,000 ft. W of E line and 466 ft. S of N line of Neff 1,000-ac. tract, Walker County School Land Sur. Abd. 6,037 ft.
Bryce McCandless et al's No. 1 Texas Long Leaf Lbr. Co., 330 ft. from N and E lines of the W¼ of Blk. No. 8, Walker County School Land Sur. Derrick.

ORANGE—ORANGE COUNTY

Trio Oil Co.'s No. 1 D. S. Comier, 69 ft. W of E line and 39 ft. S of N line of 6.82-ac. tract in W. M. Dyson Sur. Drlg. gumbo 1,904 ft.

PORT NECHES—ORANGE COUNTY

Port Neches Pet. Corp. et al's No. 1 W. B. Organ, 450 ft. from NE line and 150 ft. from NW line of A. Schramm Sur., S of Port Neches Field. Drlg. shale 5,120 ft.
Texas Co.'s No. 3-B Polk, 200 ft. S, 450 ft. W of SE cor. of Mary E. Hall Sur. No. 3. Drlg. lime 5,644 ft.
Texas Co.'s No. 10 Kuhn, 300 ft. N, 450 ft. W of SE cor. of Mary E. Hall Sur. No. 3. T.D. 5,970 ft.; cmtd. back 5,945-5,845 ft.; set 9⅝-in. csg. 5,442 ft.

LIVINGSTON—POLK COUNTY

Gem Oil Co.'s No. 1 Watt, 330 ft. N of S line, 330 ft. W of E line of lease, A. Viesca Sur. Drlg. shale 4,168 ft.
Gem Oil Co.'s No. 6 Davis & Holmes, 653 ft. from W and 662 ft. from N line of survey, A. Viesca Sur. Location.
T. D. Humphries' No. 1 J. C. Whitforth. Derrick.
Ownby Drlg. Co.'s No. 1 H. J. Pratt, 300 ft. N and E of H. J. Pratt's 2,202-ac. tract, A. Viesca Sur. Drlg. sand and shale 1,312 ft.

GRETA—REFUGIO COUNTY

Atlantic and Stanolind's No. 7-G O'Brien. Derrick.
Hewitt & Daugherty's No. 12 Lambert. Rig up.

REFUGIO—REFUGIO COUNTY

Houston Oil Co.'s No. 18 P. H. Rooke, 486 ft. SW of NE line, and 352 ft. W of E line. Drlg. sand, showing gas 4,903 ft.
Houston Oil Co.'s No. 18 W. J. J. Heard, S offset to United Prod. Co.'s well on N side of river. Drlg. sand 6,400 ft.
United Gas Co.'s No. 4 Fannie Heard old well. Rigging up to work over.
United Gas Co.'s No. 3 Tom Heard old well. Moving in to work over.
United Gas Co.'s No. 10 Wilson Heard, runs 2,062 ft. along NE line Wilson Heard lease from S cor. of Houston Oil Co.'s F. V. W. Heard lease, 4,579 ft. to a point, thence at R/A to line 330 ft. to point of location. Derrick.

COLETO CREEK—VICTORIA COUNTY

Rupert Cox's No. 1 Antone Trybil, R. Manchola Sur. Derrick.
Plummer Oil Co.'s No. 2 Terrell, 660 ft. NE of No. 2. T.D. 2,844 ft.; I.P. 50 bbls. daily through 3/16-in. choke.
Plummer Oil Co.'s No. 3 Zimmer, 660 ft. NE of No. 2. Cmtd. csg. 2,815 ft.

McFADDIN-O'CONNOR DISTRICTS—VICTORIA AND REFUGIO COUNTIES

Texas Co.'s No. 9 McFaddin. Location.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 10 H. R. Clay. Coring 1,412 ft.

LOUISE—WHARTON COUNTY

Pure Oil Co.'s No. 3 Charles T. Kountze, 1,980 ft. SE and 330 ft. SW of N cor. of Morris & Cumming Sur., Sec. 9. P.B. to 4,900 ft.
Pure Oil Co.'s No. 1 John Macha, 315 ft. from NW line and from SE line of F. Walnut Sur., and 467 ft. from NE line of 101.53-ac. lease, M.&C. Sur. No. 25. Location.
Pure Oil Co.'s No. 1 G. Wharton Est., 1,497 ft. from SW line and 315 ft. from SE line of F. Walnut Sur., Abst. A-85. Prepare to core; T.D. 6,390 ft.
Pure Oil Co.'s No. 3 Stewart, Morris & Cummings Sur., Sec. 25, 990 ft. out of SW cor. of 160 acres. Sidetracked at 6,103 ft.

BAY ST. ELAINE—TERREBONNE PARISH

Texas Co.'s No. 9 Bay St. Elaine. Drlg. sand 6,075 ft.

CALLIOU ISLAND—TERREBONNE PARISH

Texas Co.'s No. 15 Calliou Island, Sec. 30-22-23. T.D. 3,911 ft.; set whipstock at 1,520 ft.
Texas Co.'s No. 17 Calliou Island, Sec. 28-22-23. Rig up.
Texas Co.'s No. 18 Calliou Island. Location.

SOUTH LOUISIANA FIELDS

BLACK BAYOU—CAMERON PARISH

Shell Pet. Corp.'s No. 2 State.
T.D. 3,261 ft.; straightening hole.
Shell Pet. Corp.'s No. 11-C Watkins, 1,200 ft. S of NW cor., Sec. 17-12s-12w. Rig up.
Shell Pet. Corp.'s No. 3 State. T.D. 6,905 ft.; cmtd. back from 6,530-6,480 ft.
Superior Oil Prod. Co.'s No. 1 Coralie Domingua, 3,998 ft. S, 767 ft. W of NE cor. Sec. 34-8s-3e. Rig up.

BOSCO—ACADIA AND ST. LANDRY PARISHES

Standard Oil Co. of Kansas' No. 1 Mouton, 1,450 ft. E, 250 ft. S of NW cor. of SW¼ Sec. 34-8s-3e. R.U. to deepen; T.D. 1,400 ft.
Superior Oil Prod. Co.'s No. 4 Hermandez, 450 ft. E and 330 ft. S of NW cor. of lease, Sec. 34-8s-3e. 13⅜-in. csg. 1,190 ft.; prepare to drill plug.
Superior Oil Prod. Co.'s No. 7 Larcade, 2,467 ft. E, 190 ft. N of SW cor. N½ NW Sec. 35-8s-3e. Derrick.
Superior Oil Prod. Co.'s No. 1 E. Comeaux ("A" lease), 330 ft. S, 89 deg. 3 min. E, and 350 ft. S, 30 deg. 21 min. W, of SW cor. N¼ NE Sec. 35-8s-3e. 7-in. csg. 8,734 ft.; T.D. 8,743 ft.
Superior Oil Prod. Co.'s No. 3 Comeaux, 1,334 ft. E of NW cor. NE Sec. 34. 7-in. csg. 8,050 ft.; T.D. 8,070 ft.
Superior Oil Prod. Co.'s No. 5 Larcade, 1,665 ft. S and 483 ft. E of NW cor. Sec. 35-8s-3e. Drlg. shale and lime 7,741 ft.
Superior Oil Prod. Co.'s No. 1 B. Iseringhauser, 330 ft. S and 2,546 ft. W of SE cor. Sec. 27-8s-3e. Running tubing 7,843 ft.
Superior Oil Prod. Co.'s No. 1 Moise LaVergne, 269.7 ft. W and 98 ft. N of SE cor. of Sec. 26-8s-3e. Drlg. shale 7,619 ft.
Superior Oil Prod. Co.'s No. 1 A. Allemond, 350 ft. S, 20 deg. E, 53 min. W, and 530 ft. N, 88 deg., 53 min. W of NE cor. of 37.13-ac. tract, Sec. 35-8s-3e. Drlg. shale and lime 7,540 ft.
Superior Oil Prod. Co.'s No. 1 M. Kahn, from SE cor. 2,562 N, 20 deg., 53 min. E, and 1,000 ft. N, 89 deg., 23 min. W of Sec. 23-8s-3e. Drlg. sand and shale 7,980 ft.
Superior Oil Prod. Co.'s No. 1 C. B. Hermandez, 2,791.6 ft. S, 330 ft. W of NE cor. of NW¼ Sec. 34-8s-3e. Location.

EDGERLY—CALCASIEU PARISH

Union Sulphur Oil Co.'s No. 3 Hunter, 1,160 ft. N and 320 ft. E of SW cor. SE Sec. 31-9s-11w. Fishing 2,627 ft.

CAMERON MEADOWS—CAMERON PAR.

Burton-Sutton's No. 1 School Land. Drlg. sand 4,393 ft.
Burton-Sutton Oil Co.'s No. 4 School Land, 2,891 ft. W and 150 ft. N of SE cor. of Sec. 16-14s-13w. Derrick.
Magnolia Pet. Co.'s No. 9 Cameron Meadows, 2,266 ft. N and 526 ft. S of NE cor. Sec. 21-14s-13w. T.D. 3,780 ft.; I.P. 600 bbls. per day through ¾-in. choke; comp.
Texas Co.'s No. 1 Miami Corp. Drlg. shale 5,620 ft.

CHOCTAW DOME—IBERVILLE PARISH

Standard Oil Co.'s No. 5 Gay, 2,450 ft. S and 425 ft. E of NW cor. of NE Sec. 32-9s-11e. S.D. 42 ft.

DOG LAKE—TERREBONNE PARISH

Texas Co.'s No. 11 State, 150 ft. N and 2,474 ft. W, SE cor. Sec. 31-21s-16e. Derrick.
Texas Co.'s No. 15 State, 2,602 ft. N and 1,368 ft. W of SE cor. Sec. 31-21s-16e. Drlg. shale 5,732 ft.

GARDEN ISLAND BAY—TERREBONNE PARISH

Texas Co.'s No. 12 State, 3,391 ft. S and 1,504 ft. W of NE cor. Sec. 107-22-32. Rig up.
Texas Co.'s No. 14 State, 667 ft. N and 993 ft. E of SW cor. Sec. 37-23-23. Drlg. sandy lime 2,311 ft.

GUEYDAN—VERMILION PARISH

Pure Oil Co.'s No. 6, Alliance Trust, 667 ft. E, 1,787 ft. S line of lease, Sec. 24-11s-1w. Sidetracked at 5,601 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 4 Hansen, 1,650 ft. W and 780 ft. N of SE cor. Sec. 11-12s-10w. Drlg. shale 1,359 ft.
Calcasieu Oil Co.'s No. 3 H. C. Hansen, 150 ft. S and 150 ft. E of NW cor. of lease. Sec. 13-12s-10w. Drlg. lime 5,832 ft.
Gulf Prod. Co.'s No. 14-B State, 610 ft. S, 1,866 ft. E of NE cor. Sec. 13-12s-10w. Location.
Sutton Oil Co.'s No. 1 Miller, 229 ft. N and 100 ft. E of SW Sec. 33-12s-10w. Drlg. shale 4,207 ft.
Texas Co.'s No. 14 State, 500 ft. SE of No. 13, Sec. 13-12s-10w. Location.
Union Sulphur Co.'s No. 3 Hansen. Drlg. 4,881 ft.
Union Sulphur Co.'s No. 4 Hansen. Drlg. rock 4,398 ft.
Yount Lee Oil Co.'s No. 1-A Gulf Land, 2,000 ft. S and 50 ft. E of the NW cor of Sec. 22-12-10. Rig up.
Yount Lee Oil Co.'s No. 12 Gulf Land, 1,625 ft. S and 350 ft. W of NE cor. of NW of Sec. 14-12s-10w. Drlg. shale 3,851 ft.

NEW IBERIA—IBERIA PARISH

Harrison & Abercrombie's No. 3 Schwing, 500 ft. N and 50 ft. E of No. 2, Sec. 34-12s-6w. Drlg. shale 2,782 ft.
Texas Co.'s No. 1 Hansen, NE along NW line of lease 508 ft., thence 150 ft. E at R/A, Sec. 54-12s-7e. Drlg. shale 5,268 ft.

IOWA—CALCASIEU AND JEFF DAVIS

Magnolia Pet. Co.'s No. 11 Walt, 330 ft. E, 330 ft. N of SW cor. NE SE Sec. 12. T.D. 6,904 ft.
Shell Pet. Corp.'s No. 13 Hyde, 990 ft. S, 330 ft. E of NW cor. NE Sec. 13-9s-7w. Drlg. shale and shells 4,150 ft.
Shell Pet. Corp.'s No. 6 Stafford, 1,650 ft. from S line, 330 ft. W of NE cor. of lease, Sec. 18-9s-6w. Bldg. derrick.
Shell Pet. Corp.'s No. 14 Heyd, 330 ft. N, 1,319 ft. W of SE cor. of NE¼ Sec. 13. Location.

JENNINGS—ACADIA PARISH

Simon-Tolson and Gardner's No. 1, 1,020 ft. due E and 350 ft. due W of SE cor. Sec. 46-9s-2w. S.D. 1,850 ft.
Yount Lee Oil Co.'s No. 14 Housierre-Latrielle, 260 ft. N of No. 13, Sec. 47-9s-2w. Drlg. sand 7,628 ft.
Yount Lee Oil Co.'s No. 10 Housierre-Latrielle, 5,435 ft. due E, 1,070 ft. due N of SW cor. of section. R.U. to W.O.

LAKE BARRE—TERREBONNE PARISH

Texas Co.'s No. 12 L.L.&E. Drlg. lime 3,708 ft.
Texas Co.'s No. 13 Lake Barre. Drlg. cap rock 4,015 ft.
Texas Co.'s No. 29 Lake Barre. T.D. 3,829 ft.; I.P. 1,779 bbls. through ½-in. choke.
Texas Co.'s No. 30 Lake Barre. T.D. 4,073 ft.; P.B. to 3,096 ft.; abd.; T.D. 3,155 ft.
Texas Co.'s No. 31 Lake Barre. Drlg. shale 748 ft.

LAKE PELTO—TERREBONNE PARISH

Texas Co.'s No. 12 Lake Pelto. Drlg. sand 5,237 ft.
Whitstone O. & G. Co.'s No. 1 Buckley, 300 ft. S and E of NW cor. SW SW Sec. 35-19s-16e. S.D. 2,062 ft.

LAKE WASHINGTON—PLAQUEMINES PARISH

Humble O. & R. Co.'s No. 23 Cockrell-Moran, 650 ft. N and 21 deg. 30 min. E of No. 2 in Twp. 20s-26e. T.D. 4,355 ft.; flowing into pits 10 to 30 bbls. per hr.; tubing pressure 10 to 30 lbs.; csg. pressure 400 lbs.; 31% B.s.&w.

LEESVILLE—LAFOURCHE PARISH

Gulf Prod. Co.'s No. 5 Allen. T.D. 3,580 ft.; to set csg.
Gulf Prod. Co.'s No. 10 Bernard, 1,833 ft. E, 958 ft. S of NW cor. Sec. 26-21s-23e. Derrick.
Emerald Pet. Co.'s No. 10 State, west bank, 300 ft. S of well No. 1. Location.
Emerald Pet. Co.'s No. 11 State, east bank, 327 ft. N of well No. 1. Location.
Emerald Pet. Co.'s No. 12 State, east bank, 350 ft. S of well No. 1. Location.
Leesville Oil & Gas Co.'s No. 1 Southern Louisiana Canal Navigation Co., 35 ft. W of Bank of Bayou, 15 ft. N of S bank, Sec. 26-21s-22e. S.D. 4,021 ft.
Lincoln Oil Co.'s No. 5 State. Location.
Lincoln Oil Co.'s No. 6 Visor. Drlg. shale 3,270 ft.
Texas Co.'s No. 31 Leesville. Drlg. shale 2,248 ft.
Texas Co.'s No. 33 Leesville. Rig up.
Texas Co.'s No. 37 Leesville. Canal completed.
Texas Co.'s No. 39 Leesville, 1,075 ft. S, 310 ft. E, NW cor. Lot 6, Sec. 26-21s-22w. Derrick.

LOCKPORT—CALCASIEU PARISH

Magnolia Pet. Co.'s No. 12 Bordages, 966 ft. W and 93 ft. N of SE cor. N½ NE Sec. 8-10s-19w. Drlg. sand 7,693 ft.
Union Sulphur Co.'s No. 1 Moss (W.O.). Coring shale 6,759 ft.

PORT BARRE—ST. LANDRY PARISH

Gulf Ref. Co.'s No. 10 Wilson Cochran, 1,200 ft. S of most southerly NE cor. of Texas Co.'s Botany Bay lease, 600 ft. E at R/A to line lease, Sec. 4-8s-5e. Location.

ROANOKE—JEFFERSON DAVIS PARISH

Humble O. & R. Co.'s No. 2 Kratzer, 440 ft. from W line, 440 ft. from S line of 120-ac. tract, Sec. 11-4w-9s. 10¾-in. csg. 3,033 ft.; drlg. sand 6,523 ft.
Humble O. & R. Co.'s No. 1 Clayton, 3,080 ft. S and 440 ft. W, NE cor. Sec. 10-9s-4w. Rig up.
Humble O. & R. Co.'s No. 1 R. C. Jarnegan, 440 ft. S, 440 ft. E of the NW cor. SE Sec. 12-9s-4w. Drlg. shale and lime 9,338 ft.
Humble O. & R. Co.'s No. 3 Devilbiss, 1,399 ft. W, 466 ft. S of NE cor. Sec. 14-9s-4w. Pulling screen and liner; T.D. 9,425 ft.
Shell Pet. Corp.'s No. 1 Jarnigan, 330 ft. E, 660 ft. S, NW cor. Sec. 12-9s-4w. Coring sandy shale 9,340 ft.
Shell Pet. Corp.'s No. 1 Carter, 660 ft. N and 330 ft. W of SE cor. NW Sec. 1-9s-4w. Coring sand 7,281 ft.
Shell Pet. Corp.'s No. 2 Kratzer, 440 ft. N and 440 ft. E of SW cor. NW Sec. 12-9s-4w. Coring shale 7,175 ft.

STARKS—CALCASIEU PARISH

Gulf Prod. Co.'s No. 35 Lutcher Moore, Sec. 19-9s-8w. Location; W.O.; drlg. 3,621 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 2 Noble, E of No. 1. Drlg. sand 4,078 ft.
Union Sulphur Co.'s No. 790 fee, 329 ft. S and 862 ft. W of C Sec. 29-9s-10w. Drlg. sand and shale 5,755 ft.
Union Sulphur Co.'s No. 2 Ulrich, 500 ft. N of No. 1. S.D. 6,230 ft.

VINTON—CALCASIEU PARISH

Vinton Pet. Co.'s No. 12 Gray, 605 ft. N and 374 ft. W of SE cor. Sec. 33-10s-12w. Rig up.
Wilson Broach's No. 9 Wilson. Fishing 3,672 ft.

WHITE CASTLE—IBERVILLE PARISH

Shell Pet. Corp.'s No. 1 White Castle Shingle Co., 1,320 ft. W, 100 ft. S from NE cor. of lease. Drlg. shale 3,353 ft.
Shell Pet. Corp.'s No. 9 Wilburn, 300 ft. E of No. 7. T.D. 6,559 ft.; I.P. 489 bbls. through 18/64-in. choke; tubing pressure 720 lbs.; csg. pressure 840 lbs.

MISCELLANEOUS WILDCATS

TEXAS

BRAZORIA COUNTY

Amerada Pet. Corp.'s No. 1 Houston Farm Dev. Co., 1,414 ft. N, 316 ft. W of SE cor. of L. Bachelder Sur. Drlg. shale 7,040 ft.
Big Creek Oil Co.'s (C. & R. G. Drlg. Co.) No. 2 Truska, 991 ft. W of No. 1, H.T.&B. Sur., Sec. 7. S.D. 935 ft.
Holt et al's No. 1 Griffith, J. B. Bailey Sur. T.D. 4,200 ft.; waiting orders.
Luling O. & G. Co.'s No. 1 Jameson, 600 ft. W of E line, 750 ft. S of N line of N. E. Roberts Sur. Prepare to spud.
Showers & Moncrief's No. 1 Hughey, 5,500 ft. NW of discovery well, in center of Lot 18, H.T.&B. Sur., Sec. 29, Abst. 282. Location.

CALHOUN COUNTY

Continental Oil Co.'s No. 1 American Nat. Realty Co., C of NE of Sec. 6, Blk. C. Preparing to work over.

CHAMBERS COUNTY

Humble O. & R. Co.'s No. 1 Middleton, 466 ft. each way out of the SW cor. of survey. 13⅜-in. csg. at 2,319 ft.; drlg. hard sand 4,900 ft.
Sun Oil Co.'s No. 1 Hamilton, 1,400 ft. from N line, 1,400 ft. from W line of survey, T.&N.O. Sur., Sec. 128. Drlg. shale 7,685 ft.

COLORADO COUNTY

Danciger O. & R. Co. and L. E. Hults's No. 1 C. L. Raver, 990 ft. N and E of SW cor. 477 acres, Sec. 1, B.B.B.&C. Sur. Drlg. shale 5,210 ft.

FORT BEND COUNTY

W. A. Shafer et al's No. 1 V. B. Bertash, 693 ft. SW of NE line and 1,003 ft. NW of SE line of Sec. 52, H.&T.C. Sur. S.D. 2,906 ft.

GALVESTON COUNTY

Gillock Pet. Co.'s No. 2 Mace Stewart, 300 ft. N and 150 ft. W of No. 1, Alex Farmer Sur. T.D. 1,500 ft.; waiting on surface pipe; S.D.
Texana Gulf Oil Corp.'s No. 1 Thomas Shaw (200 acres), 150 ft. NW line, 185 ft. NE line, Lot 66, Sec. 7, Hall & Jones, Galveston Island. Drlg. shale 5,420 ft.

GRIMES COUNTY

Hubert Holt et al's No. 1 Simon Fuqua, 1,200 ft. N of S line and 400 ft. W of E line of 177-ac. lease and survey, Moses Evans Sur. S.D. 3,046 ft.
Dr. Marshall et al's No. 1-B Todd, 300 ft. from E line and 175 ft. from N line of 150-ac. tract in extreme NW cor. of county (25 ft. N of No. 1). S.D. 2,605 ft.
Roan et al's No. 1 S. W. Sealy, 2,474 ft. N of S line and 350 ft. E of W line of survey, B. F. Smith Sur., 2 miles SW of Kellum Springs. S.D. 2,650 ft.

HARRIS COUNTY

Cockburn Oil Co.'s No. 1 Brooks, 7,400 ft. SW of NE cor. of Robert and Richard Vince Sur. Drlg. gumbo 2,726 ft.
Esco Oil Co.'s No. 1 E. P. Seureau, 2,333 ft. from W line and 2,215 ft. from S line of 350-ac. tract, W. P. Harris Sur., Abst. A-30. S.D. 5,660 ft.
Goldston et al's No. 1 Weingarten, 467 ft. out of NE cor. of H.&T.C. Sur., Sec. 39. Drlg. shale 5,220 ft.
T. S. F. Oil Co.'s No. 1 J. B. Hine, Arthur McCormick Sur., Abst. 46. Drlg. shale 3,950 ft.
C. C. Foster et al's No. 1 H. K. Johnson, 2,000 ft. from S line and C of E and W lines of G.C.&S.F. Sur. Drilled 25 ft. and S.D.
Means and McGehee, Inc.'s No. 1 Laura Lackner, 9,857 ft. W and 2,803 ft. N, of H. Rinerman Sur. Prepare to spud.
Means & McGehee's No. 1 Herbert Neuhaus, 400 ft. from S and E lines of 154.55-ac. tract, Wm. P. Morton Sur. Location.
W. U. Paul's No. 1 E. M. House, 2,200 ft. N and 1,000 ft. E of NE cor. of H. Benson Sur. in M. Magruder Sur. S.D. 3,750 ft.

JACKSON COUNTY

A. M. Harris' No. 1 Whitley, 800 ft. out of SE cor. of F. G. Keller Sur. Location.

JEFFERSON COUNTY

Sun Oil Co.'s No. 1 H. Long, 1,500 ft. E line, 990 ft. E line of lease. T.D. 9,045 ft.; swabbing.
Sun Oil Co.'s No. 1 Robert & Braussard, 8,890 ft. NW along SW line and 660 ft. NE at right angles to SW line, B. Blackman

Sur., Abst. No. 2.
Rig up.

LAVACA COUNTY

Humble O. & R. Co.'s No. 1 C. S. Wilson 330 ft. out of SW cor. of Crenshaw Sur Abd. 7,516 ft.

LIBERTY COUNTY

R. M. Bruner et al's No. 1 N. Bell, 150 ft from N line and 150 ft. from W line of Bell's 187-ac. tract, H.&T.B. Sur. No 4 Rigging up.

Extension Oil Co.'s No. 1 J. A. Lovett, 280 ft. from E and 600 ft. from S line of lease T. P. Deevers Sur.
Drlg. sandy shale 4,075 ft.

Liberty-Independent Oil Co.'s No. 1 J. M Neal, 3,550 varas from E line and 500 varas from N line of Samuel Strong Sur. Drlg. shale 3,620 ft.

A. L. Maxwell's No. 1 M. P. Hinchliff, 200 ft. from E line and 1,000 ft. from the N line of survey, H.&T.C. Sur., Sec. 10s. Rig up.

Thomas et al's No. 1-A Eicke, 660 ft. from W line and 2,350 ft. from S line of tract in Green Sur.
T.D. 5,047 ft.; 4½-in. csg. at 5,029 ft.

MATAGORDA COUNTY

Cockburn Oil Co.'s No. 6 Hawkins, 2,600 ft from NW line, 1,200 ft. from SW line of McCarthy Sur.
Drlg. shale 4,520 ft.

Dr. Griffith's No. 1 fee, 3,000 ft. from E line and 3,000 ft. from W line of Wm. H Bell Sur.
Rigging up and S.D.

Horace M. Smith, Inc.'s No. 1 Wadsworth ranch, 150 ft. out of S cor. of Lot No. 3 Blk. S, R. Fisher Sur.
Drlg. shale 3,076 ft.

MONTGOMERY COUNTY

Reynolds Drlg. Co. et al's No. 1 Mrs. Clara B. Stewart, 330 ft. S and E of most easterly inner cor. of 595-ac. tract, John Corner Sur.
S.D. 5,500 ft.

Walter Keeble's No. 1 Foster, 700 ft. E of W line, 2,000 ft. N of S line, Lot 27.
S.D. to finish R.U.

Woodard-Smith-Cooper's No. 1 J. V. Scott F. A. B. Wheeler Sur.
S.D. 2,860 ft.

ORANGE COUNTY

Blue Line Oil Co.'s No. 1 Godwin, Richard Ballew Sur., 300 ft. from E line and 150 ft. from NE line of Godwin 20-ac. tract.
S.D. 2,770 ft.

POLK COUNTY

C. & C. Drlg. Co.'s No. 1 Granbury & Smith 600 ft. N and 600 ft. W from most western NW cor. of Gulf Prod. Co.'s Granbury & Smith lease, in the Wm. Shadburn Sur.
Derrick.

Howard Dailey et al's No. 1 Z. B. Knox 1,450 ft. W and 1,920 ft. S of NE cor of F. Chairs Sur., 16 miles NE of Corrigan.
S.D. 60 ft.

J. F. Anderson's No. 1 E. L. Duke (O.W.D D.), 400 ft. from E and 350 ft. from S of SW cor. of P. Michelick 50-ac. lease, Abst 59, P. J. Mineral Sur.
Waiting on a new mud pump; T.D. 5,304 ft.

Marathon Oil Co.'s No. 1 A. S. Jones, 990 ft. from NW and SW lines of J. D Thomas Sur.
Coring shale 3,220 ft.

Dick Schwab's No. 1 Lynch, 330 ft. out of NW cor. of 300-ac. tract in the George Jameson Sur.
Location.

E. A. Thompson's No. 1 Haynes, 990 ft. out of NW cor. of 320-ac. tract and survey, J. Whitmire Sur., E of Leggett.
Rig up.

West Prod. Co.'s No. 1 W. T. Carter, 330 ft. due E of SE cor. of W. D. Johnson's 53.7-ac. lease, 3½ miles E of Livingston Field, S. C. Hiram Sur., Abst. A-37.
Location.

REFUGIO COUNTY

Atkins & O'Neil's No. 1 M. Woods, 466 ft. from N and E lines of NW Sec. 8.
Drlg. 6,100 ft.

Cecil Hagen et al's No. 1 Edith Clarkson, 1,736 ft. from N line, 3,520 ft. from E line of J. Coughlin Sur.
Location.

Magnolia Pet. Co.'s No. 1 F. B. Roake, 330 ft. from S line, 7,150 ft. from W line of Donna Roogas Sur.
Drlg. shale 5,600 ft.

SAN AUGUSTINE COUNTY

Fidelity Exploration Co.'s No. 2 Bryan & Fleurney, 400 ft. from No. 1.
T.D. 1,565 ft.

TRINITY COUNTY

Moore and McLaughlin's No. 1 White, 250 varas from N line, 263 varas from E line of 56-ac. tract, Goff Sur.
Spudded.

WALKER COUNTY

Seaport Oil Co.'s No. 1 W. B. Ross, in SE cor. of an 80-ac. tract out of the Wm. Hodge Sur.
S.D. 1,994 ft.

WALLER COUNTY

Stanolind O. & G. Co. et al's No. 1 J. W. Tharp, 466 ft. from S and E lines of J. M. Bennett Sur. No. 100.
7-in. csg. 6,998 ft.; prepare to drill plug; Coring sandstone 7,397 ft.

WHARTON COUNTY

Whitehead and Rash's No. 1 C. T. and D. Kountze, 1,320 ft. from N line, 330 ft. from E line of S.A.&M.G. Sur., Sec. 1, Abstr. 238.
Moving in rig.

SOUTH LOUISIANA
ACADIA PARISH

Humble O. & R. Co.'s No. 1 American Rice Mills, 660 ft. S and 1,320 ft. W from NE cor. Sec. 27-10s-1e.
Drlg. sand and shale 7,415 ft.

Superior Oil Co. et al's No. 1 A. S. Newman, 2,000 ft. N and 1,120 ft. E of SW cor. Sec. 34-7s-1w.
Drlg. lime 7,336 ft.

ASCENSION PARISH

Humble O. & R. Co.'s No. 2 S. Gumbel & Co., 500 ft. southwesterly from No. 1, 275 ft. easterly from road and approx. 475 ft. N of S line of tract Sec. 32-10s-2e 9⅝-in. csg. 5,695 ft.; T.D. 5,716 ft.; flowed 251 bbls. in 21 hrs. and then went dead; swabbing.

AVOYELLES PARISH

Southern State Pet. Co.'s No. 1 Boyette, 330 ft. N and 330 ft. E of SW cor. Sec. 28-3n-5e.
Rig up.

BEAUREGARD PARISH

Richardson & Martin's No. 1 Southwest Lbr. Location.

CALCASIEU PARISH

Fred Oil Co.'s No. 2 Faizst, 262 ft. E and 83 ft. S of NW cor. SE¼ Sec. 26-8s-10w. Location.

Sohs Oil Co.'s No. 1 McIvor, 330 ft. S and W of NE cor. Sec. 14-9s-8w.
Location.

Sohs' No. 1 O. H. Castle, 330 ft. S and 330 ft. W of C Sec. 18-9s-3w.
Drlg. shale 6,971 ft.

Gulf Prod. Co.'s No. 1 H. Starks et al, 1,650 ft. W and 1,980 ft. S of NE cor. Sec. 26-11s-12w.
Drlg. sand 3,712 ft.

Texas Co.'s No. 1 Nickerson, 3,139 ft. N and 1,238 ft. W of SE cor. Sec. 12-9s-8w.
Rig up.

Union Sulphur Co.'s No. 1 Powell Lbr. Co., 600 ft. N of No. 1 State Sec. 12-9s-8w
Drlg. shale and lime 6,206 ft.

Union Sulphur Co.'s No. 2 State, 748 ft. S and 8 ft. E. NW cor. SW Sec. 12-9s-8w.
Drlg. sticky shale 4,308 ft.

Union Sulphur Co.'s No. 3 State, 2,135 ft. S, 2,340 ft. E of NW cor. Sec. 12-9s-8w.
Location.

Union Sulphur Co.'s No. 1 Castle, 326 ft. N and E of NW Sec. 13-9s-8w.
Drlg. wtr. sand 1,684 ft.

Union Sulphur Co.'s No. 1 Buhler, 1,485 ft. N and 425 ft. W of SE cor. Sec. 11-9s-8w.
Drlg. sticky shale 4,231 ft.

Wheeler Oil Co.'s No. 1 Gabbert, 1,322 ft E and 548 ft. N of SW cor. of Sec. 28 10s-7w.
Drlg. shale 7,264 ft.

EAST FELICIANA PARISH

Thompson Creek Oil Co.'s No. 1 Fannie Noland, 2,600 ft. E and 1,580 ft. N of SW cor. Sec. 70.
S.D. 1,490 ft

EVANGELINE PARISH

Humble O. & R. Co.'s No. 1 Haas, 1,250 ft SE of Bayou Nespique, 466 ft. NE of SW line of Sec. 22-4s-1w.
Abd. 8,014 ft.

CAMERON PARISH

Texas Co.'s No. 1 Jessen, 1,170 ft. E and 550 ft. N of C Sec. 24-14s-10w.
Drlg. sand 5,430 ft.

JEFFERSON DAVIS PARISH

George W. Strake's No. 1 Calcasieu Natl Bank, 200 ft. S and E of NW cor. SE NE Sec. 12-9s-6w.
T.D. 8,019 ft.; D.S. stuck.

JEFFERSON PARISH

Texas Co.'s No. 1 Bayou St. Dennis, 20,967 ft. S. 4,853 ft. E of NW cor. of Twp., Sec. 19-17s-24e.
Rig up.

LAFOURCHE PARISH

Emerald Pet. Co.'s No. 1 Bowie Lumber Co., 4,431 ft. N and 1,632 ft. E of SW cor. Sec. 53-10s-8e.
Drlg. sandy shale 8,020 ft.

Southern Sulphur Corp.'s No. 1 D. L. Lagraize, 800 ft. E of NW cor. of Lot 7 thence 250 ft. S of Sec. 26-21s-22e.
Spudded and shut down.

PLAQUEMINES PARISH

Venice Corp.'s No. 1 Burras.
Drlg. lime rock 1,782 ft.

RAPIDES PARISH

J. B. Evers' No. 1 G. Wettermark, 540 ft. S and 520 ft. E, NW cor. NE SW Sec. 35-6n-2e.
Rig up and S.D.

C. D. Loe's No. 1 Barrett, 330 ft. NW of SE line and 330 ft. NE of SW line of Sec 40-5n-1w.
Rig up and S.D.

Williams-Terrell & Day's No. 1 Armstrong & Murphy, 286 ft. N and 300 ft. W of SE cor. Sec. 24-5n-1w.
Derrick.

ST. BERNARD PARISH

Danciger's No. 1 Battles, 336 ft. N, 2,196 ft. W of SE cor. Sec. 135-14s-14e.
Cmtd. csg.; moved off rig; T.D. 6,061 ft.

ST. LANDRY PARISH

Bailey Gaunce's No. 1 Lewis, 300 ft. N and E of SW cor. of NW of NE of Sec. 29-5s-6e (workover).
Washing to bottom 5,042 ft.

H. J. Weir's No. 1 Decloquet, Sec. 108-8s-5e. near Lafayette Parish line and 3 miles N of Anse La Bute Field.
S.D. 2,322 ft.

TANGIPOHA PARISH

R. A. Compton's No. 1 Lake Superior Piling Co., 200 ft. W and N of SE cor. Sec. 19-5s-9e.
Drlg. sand 560 ft.

VERMILLION PARISH

Moore Bros.' No. 1 Brussard, 350 ft. S of N line, 250 ft. E of W line, NE cor. Sec. 32-11s-3e.
S.D. 4,056 ft.

La.-Ark. Wildcats

(Continued from Page 140)

Farma, 660 ft. S and W, NE cor. Sec. 1-13-3.
Derrick.

CALHOUN COUNTY

R. J. McMurray's No. 2 Calion Lbr. Co., 330 ft. N and W, SE cor. Sec. 32-15-14. S.W. and abd. 3,293 ft.

HEMPSTEAD COUNTY

A. H. Bagnelle's No. 1 Trattner & Rhinehart, Sec. 2-13-26.
S.D. 1,993 ft.

LAFAYETTE COUNTY

W. H. Harvey's No. 2 Allen, Sec. 18-19-24.
S.D. 850 ft.

LONOKE COUNTY

J. G. Strahan's No. 1 Hardin, Sec. 18-2s-7w.
Drlg. 1,350 ft.

MILLER COUNTY

Duluth-Ark. Oil Co.'s No. 4 Beck, SE cor. SE SW Sec. 34-15-26.
W.O.S.R. 2,941 ft.

Fitzwater et al's No. 1 Norson, SW cor. SE SW Sec. 20-15-27.
S.D. 3,177 ft.

Ark. Oil, Gas & Ref. Co.'s No. 1 Beck, SW cor. NW SW Sec. 34-15-26.
1,200 ft. oil in hole at 2,920 ft.

King Oil Corp.'s No. 1 C. H. Schroder, 200 ft. N, 330 ft. E, SW cor. SW NE Sec. 24-14-28.
S.D. 2,167 ft.

Magnolia Pet. Co.'s No. 6 Olivet, 330 ft. S and E, NW cor. NE NW Sec. 3-16-26.
W.O.S.R. 2,928 ft.

A. C. Roan's No. 1 Frost Est., 150 ft. N and W, SE cor. SE SW Sec. 8-15-26.
Set 10-in. 120 ft.

Thorntree Oil Corp.'s No. 2 E. H. Beck, SE cor. SW SW Sec. 34-15-26.
W.O.S.R. 2,933 ft.

Lee Timberlake's No. 1 Frost Est., 330 ft. N and E, SW cor. SW SE Sec. 27-15-26.
S.D. 1,275 ft.

John Wrather's No. 2 H. E. Beck, 330 ft. N and W, SE cor. SW SE Sec. 34-15-26.
Rigging up.

OUACHITA COUNTY

F. A. Book et al's No. 1 Arnold, Sec. 24-15-16.
S.D. 3,032 ft.

S. J. Carnes' No. 1 L. Caldwell, 330 ft. S and E, NW cor. Sec. 12-14-19.
Set 10-in. 102 ft.

T. J. Gaughan's No. 2 M. Bragg, 330 ft. S and E, NW cor. NE SE Sec. 25-13-18.
Set 10-in. 101 ft.; S.D.; W.O. 1,332 ft.

T. J. Gaughan's No. 1 Cartler, 330 ft. S and E, NW cor. SE SE Sec. 25-13-18.
P.B. to shallow depth.

Lovett & Darwins' No. 1 James Boyd, Sec. 17-13-17.
Dry and abd. 1,482 ft.

UNION COUNTY

Alice-Sidney Oil Co.'s No. 9 E. F. Gregory, 330 ft. N and E, SW cor. NW SW Sec. 11-17-14.
Set 10-in. 142 ft.; drlg. 2,559 ft.

J. E. Crosbie, Inc.'s No. 1 W. E. Gregory, 330 ft. S and E, NW cor. NE Sec 15-17-14.
T.A. 3,503 ft.

J. E. Crosbie, Inc.'s No. 3-A E. F. Gregory, 330 ft. N and E, SW cor. NE SW Sec. 10-17-14.
Derrick.

Durand Dev. Co.'s No. 1 Ezzell, 330 ft. S and W, NE cor. Sec. 13-17-15.
S.D. 2,851 ft.

H. L. Hunt's No. 11 J. D. Gregory, C NE SW SE Sec. 10-17-14.
Testing 3,305-31 ft.

E. R. Henderson's No. 2 Vines, NW cor. SW SE Sec. 29-18-14.
Drlg. plug 2,205 ft.

H. L. Hunt's No. 15 E. F. Gregory, 330 ft. N and W, SE cor. Sec. 10-17-14.
Drlg. 3,822 ft.

H. L. Hunt's No. 18 E. F. Gregory, 330 ft. N and E, SW cor. Sec. 11-17-14.
Location.

M. D. Ingall's No. 1 A. J. Perdue, C SE NW SW Sec. 4-17-14.
Location abd.; (corrected).

T. L. James & Co.'s No. 1 Gregory, 330 ft. S and W, NE cor. N½ NW SW Sec. 10-17-14.
Testing 3,395 ft.

Mrs. R. K. Jones et al's No. 1 Davis, 330 ft. N and W, SE cor. NW NW Sec. 28-16-14.
Set 7-in. 2,746 ft.; T.D. 2,765 ft.

Lion Oil Ref. Co.'s No. 6 H. L. Rowland, 330 ft. S and W, NE cor. Sec. 15-17-14.
S.D.; W.O. 3,427 ft.

Marine Oil Co.'s No. 7-A W. B. Thompson, 330 ft. N and W, SE cor. SW SE Sec. 3-18-13.
Derrick.

Monroe Prod. Co.'s No. 1 Z. Bolinclair, 330 ft. S and W, NE cor. Sec. 16-17-14.
Drlg. 2,890 ft.

C. H. Murphy's No. 1 Union Saw Mill Co., 330 ft. N, SE cor. NW SE Sec. 20-18-11.
S.D. 2,950 ft.

C. E. Murdock's No. 8 J. M. Gregory, C NW NE SE Sec. 10-17-14.
Rigged up and S.D.

C. E. Murdock, Inc.'s No. 7 J. M. Gregory, 330 ft. N, 330 ft. W, SE cor. NE SE Sec. 10-17-14.
Set 7-in. 3,312 ft.

C. E. Murdock's No. 1 R. Pumphrey, C SW NW NE Sec. 11-17-14.
Derrick.

Reuter Oil Co., Inc.'s No. 1 J. L. Kinard, 330 ft. S and E, NW cor. SE NW Sec. 32-18-14.
Pumping 2,189 ft.; no gauge.

Geo. L. Pace's No. 1 Union Saw Mill Co., 330 ft. S and W, NE cor. NE SW Sec. 24-18-12.
S.D. 1,710 ft.

S. H. A. Oil Co.'s No. 5 J. W. Taylor, 990 ft. S, 330 ft. W, C Sec. 10-17-14.
Derrick.

S. H A. Oil Co.'s No. 5 Taylor, Sec. 10-17-14.
Set 10-in. 104 ft.

Skelly Oil Co.'s No. 7 Perdue, 330 ft. N and E SW cor. SE NW Sec. 10-17-14.
Set 7-in. 3,354 ft.

Grady Vaughn's No. 1 T. B. Rowland, 330 ft. S and E, NW cor. Sec. 14-17-14.
Derrick.

WOODRUFF COUNTY

L. P. Lively's No. 1 Perkins, 330 ft. N, 360 ft. E, SW cor. SE SE Sec. 5-5n-2w.
Rigging up.

J. N. Watkins et al's No. 1 Upshaw, 330 ft. N and E, SW cor. S WSec. 17-5n-3w.
Rigging up.

MISSISSIPPI
AMITE COUNTY

Mineral Resources, Inc.'s No. 1 Anderson, C NE NW Sec. 14-3n-3e.
S.D. 550 ft.

BOLIVAR COUNTY

White & Jones' No. 1 Ballou, SE SE NW Sec. 17-24n-7w.
S.D. 20 ft.

CLARKE COUNTY

Clarke County Oil Co.'s No. 1 Dora Butler, C SW SW Sec. 15-2n-16e.
Set 10-in. 63 ft.

HARRISON COUNTY

Big Ridge Oil Co.'s No. 1 Hinzin, NE Sec. 13-7s-10w.
S.D.; W.O. 1,100 ft.

ISSEQUENA COUNTY

Pelican Oil & Gasoline Co.'s No. 1 Martin & Bender, 300 ft. S and E, NW cor. Sec. 11-12n-8w.
S.D.; curing tittles, 3,227 ft.

JONES COUNTY

Snow-Black Pet. Co.'s No. 2 Watson, 520 ft. W, 200 ft. S, C Sec. 24-7n-13w.
T.A. 3,900 ft.

LAUDERDALE COUNTY

Bob Dalton's No. 1 Bounds, Sec. 34-7n-15e.
Set 10-in. 560 ft.; S.D.; W.O.

MONROE COUNTY

P. J. McAlpine's No. 1 Frank Rye, Sec. 15-15s-17w.
S.D. 2,910 ft.

P. J. McAlpine's No. 1 Crook, 1,090 ft. S 90 ft. W, NE cor. Sec. 15-13s-13w.
Arranging to set 6-in. 1,514 ft.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, SW cor. SW SE Sec. 34-2n-9e.
Partly rigged up and S.D.

WASHINGTON COUNTY

Perkins & Dees' No. 1 Lee, 1,500 ft. E, 500 ft. N, SW cor. Sec. 33-15n-3w.
Set 10-in. 300 ft. and S.D.

WINSTON COUNTY

Jack Vale et al's No. 1 Moody, 713 ft. N, 667 ft. E, SW cor. NW SW Sec. 3-13n-14e.
S.D. 785 ft.

La.-Ark. Proven Fields

NORTH LOUISIANA
CADDO—BLANCHARD

Louana O. & G. Co.'s No. 1-B W. M. Hammond, 660 ft. S and W, NE cor. SE Sec. 5-18-16.
Set 8-in. 20 ft.; coring 928 ft.

CADDO—HOSSTON

Shoreline Oil Corp.'s No. 44 Crystal, 220 ft. S and E of C Sec. 13-21-16.
Derrick.

SABINE PARISH—ZWOLLE

Alexander & Crane's No. 1 Fogman, SE cor. N½ SW NE Sec. 18-7-11.
S.D.; W.O. 2,373 ft.

Ivan A. Allen's No. 1 La. Long Leaf, 330 ft. N and W, SE cor. NW SE Sec. 12-7-11.
S.D. 2,120 ft.

Crichton & Co.'s No. 1 Williams, 660 ft. N and E, SW cor. SW SE Sec. 6-7-11.
Tested dry; S.D.; W.O. 2,762 ft.

Foster & Hartman's No. 1 Bowman Hicks, 330 ft. S and E, NW cor. NE Sec. 10-7-12.
Dry and abd. 2,696 ft.

E. D. Holcomb's No. 1 Porter, 330 ft. S, 330 ft. W, NE cor. SE Sec. 7-7-11.
Pulling liner 2,580 ft.

H. C. Maulding's No. 1 Davis, 350 ft. N and W, SE cor. NE NE Sec. 2-7-11.
Rigging up.

H. C. Maulding's No. 2 DeLatin, 330 ft. S and E, NW cor. NE SE Sec. 3-7-11.
S.D. 2,250 ft.

K. C. Peterson et al's No. 1 Bowman-Hicks, 330 ft. S and E, NW cor. SW NW Sec. 2-7-9.
Derrick down.

Tex.-La.-Ark. Oil Co.'s No. 1 Pickering Lbr. Co., Sec. 3-3-12.
S.D. 2,742 ft.

EAST TEXAS (BORDER COUNTIES)
HARRISON COUNTY

R. C. Payne et al's No. 1 Lowery, E. D. Spain Sur.
P.B. to 3,524 ft.

MARION COUNTY

Ed S. Holman's No. 1 Henderson, R. Bennington Sur.
Drlg. 1,500 ft.

PANOLA COUNTY

R. H. Davis' No. 1 Wooten Est., Winnie Mann Sur.
Cmtd. back and testing.

Givens & Holloway's No. 1 Wooten est., Winnie Mann Sur.
T.A. 2,153 ft.

R. W. Price's No. 1 Crawford, J. A. Williams Sur.
Set 10-in. 64 ft.

Fred Stovall Drlg. Co.'s No. 1 H. D. Ivey, P. Martin H.R.S.
S.D. for csg. 1,980 ft.

Thomason Drlg. Co.'s No. 1 Cadenhead, Jas. Smith Sur.
Rigging up.

SHELBY COUNTY

Cliff Stovall's No. 1 Pickering Lbr. Co., C H. Patterson Sur.
S.D.; rig repair, 1,485 ft.

O. P. Bush, trustee's No. 1 Pickering Lbr. Co., P. W. Harvey Sur.
S.D. 730 ft.

ALABAMA
CONECUH COUNTY

Ray L. Eastabrook's No. 1 Miller Mill Co., W½ NE Sec. 1-4n-12e.
Arranging to set 9-in. 1,006 ft.

COVINGTON COUNTY

Geometer Prod. Corp.'s No. 1 Culbreath, SW cor. SW NE Sec. 8-2n-14e.
S.D.; W.O. 1,000 ft.

HOUSTON COUNTY

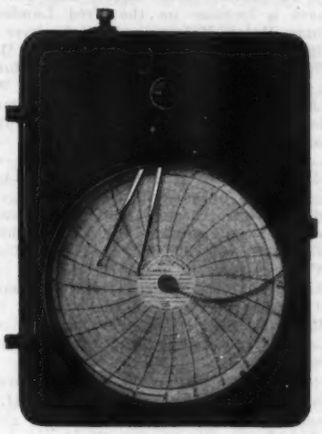
Rice O. & G. Co.'s No. 1 Oakley est., SE cor. NW SW Sec. 9-3n-29e.
S.D.; W.O. 2,506 ft.

LAMAR COUNTY

DeSoto O. & G. Corp.'s No. 1 Gardner, Sec. 23-15s-16w.
S.D. 4,182 ft.

NEW AND IMPROVED EQUIPMENT

American Meter Announces Improved Instrument Case



Improved appearance, utility and convenience of orifice measurement and flow control instruments are announced by American Meter Co., 60 East Forty-second Street, New York, in the development of its new Type W case, now standard for the company's entire line of recording and integrating flow and orifice meters, rate-volume controllers, liquid level indicators and controllers.

The case body and door are cast of an aluminum alloy with door hinges and hinge pins, produced from special alloys to minimize the possibility of corrosion. A sponge rubber gasket secured in a recess of the door makes the case moisture and dust proof.

Time and labor are saved in the necessary inspection of the instrument by making the chart dial size such that the pressure spring, stuffing box and other working parts are visible when the door is open. The new case is made highly satisfactory for flush mounting. For that type of installation a flange is cast integral with the case, the door being hinged to the flange.

For flow control instruments the Type W case has the air supply gauge and the gauge indicating the pressure on the diaphragm head of the control valve mounted on brackets secured to the inside of the case. The door is provided with two additional round windows, making these gauge indications visible at all times. The construction here also facilitates flush mounting since all air connections are behind the panel board and are made into flanges secured to the sides or back of the case. The instrument is finished in velvet black.

SAFETY SWITCHES ANNOUNCED

A new line of weatherproof, dust-tight type A safety switches in standard sizes from 30 to 600 amperes capacity, is now being supplied by the Electric Controller & Manufacturing Co., 2708 East Seventy-ninth Street, Cleveland, Ohio. These switches use the same switch mechanism that is provided with the standard EC&M safety switch, which is of type A construction, and should not be confused with the type C safety switches using lighter construction and which do not have safety interlocks. These EC&M weatherproof safety switches are equipped with fully interlocked door, making it impossible to operate the switch with the door open, or to open the door with the switch closed. They are enclosed in a rustproof 10-gauge steel cabinet.

Among the Equipment Houses

Leonard W. Horr, former Chicago manager of the Henry Vogt Machine Co., Louisville, Ky., has become associated with the cooling equipment division of the Rinks Manufacturing Co., 3114 Carroll Avenue, Chicago, manufacturer of water cooling equipment and industrial spray appliances.

—

Max D. Rose, eastern sales manager of the American Radiator Co., has been elected vice president. He joined the company in 1906 following his graduation from the University of Chicago.

—

Appointment of three new warehouse distributors of Enduro stainless steel is announced by N. J. Clarke, vice president in charge of sales, Republic Steel Corp., Youngstown, Ohio. They are: Buhl Sons Co., Detroit, Mich.; F. W. Heitmann Co., Houston, Tex.; the Woodward Co., Albany, N. Y.

—

E. C. Kopp, district manager for the Smith Separator Corp., Tulsa, in the northern half of Texas, including East Texas and West Texas, has moved his headquarters from Fort Worth to Midland.

Herbert A. Guerin has joined the Chicago sales office staff of the Chicago Bridge & Iron Works. He previously has been in the employ of the company in Greenville, Pa., and Birmingham, Ala.

—

The resignation of Robert Treat Paine, 2d, for 40 years a director of the General Electric Co., has been accepted by the board of directors. Mr. Paine resigned because of ill health.

—

The Thermoid Rubber Co., Trenton, N. J., has appointed Karl R. Kightlinger as account executive in its oil field sales organization. Mr. Kightlinger has been an engineer in the oil fields for years.

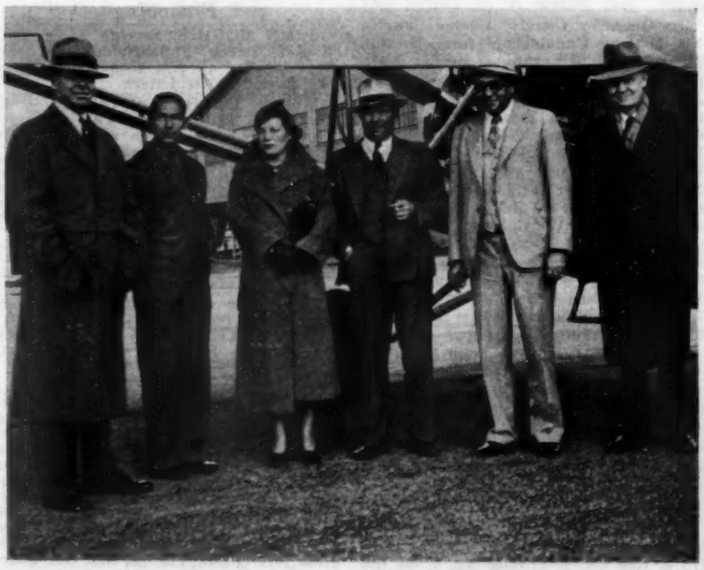
—

George E. Jenkins, for 16 years with the Four Wheel Drive Auto Co., Clintonville, Wis., has been made sales manager of the FWD Sales Co., Duncan, Okla., of which Erle P. Halliburton is president.

—

J. S. Vanick, development and research department, International Nickel Co., Inc., was guest speaker at the January 14 meeting of the New Jersey chapter of the American Society for Metals.

California Manufacturers Send Men to South America



With an increase in foreign business indicating an extensive application of American oil equipment in foreign countries during this year, three California manufacturers of oil tools have sent representatives to visit South American fields. The trip is being made by plane with J. W. MacClatchie representing the MacClatchie Manufacturing Co. of Compton, and S. R. (Pinky) Robinson representing Alexander Anderson, Inc., of Fullerton, and O. P. Yowell Service Co. of Whittier. Mrs. Robinson is accompanying them.

The plane, a six-passenger cabin Ryan monoplane, belonging to the MacClatchie Manufacturing Co., left the United Airport at Glendale on January 16. The trip will take from two to three months with the itinerary including stops in El Paso and Brownsville; Tampico, Vera Cruz and Mexico City in Mexico; Managua, Nicaragua; San Jose, Costa Rica; Colon in the Canal Zone; Bogota in Colombia; Maracaibo in Venezuela; and Port of Spain, Trinidad.

Contacts will be made with executives and field men in the various oil-producing areas visited. Mr. MacClatchie will present all of his company's line including pistons, valves, blowout preventers, wall scrapers, reamers and underreamers, brakes, etc. Mr. Robinson will handle the Anderson photo-record single-shot survey instrument for measuring the inclination and direction of drilling wells and the Yowell well-cleaning devices and Yowell perforation cleaner.

Men Well Known in the Equipment Field

H. M. ROBINSON

H. M. Robinson, known to his many friends in Kansas and Oklahoma as "Wire Line Robbie," has been appointed direct factory representative for Macwhyte Co., Kenosha, Wis., manufacturer of wire lines. His headquarters are in Shawnee, Okla.

—

Russell Offering Portable Pyrometer of Lance Type

Encouraged by the success of its wall type pyrometer, the Russell Electric Co., 380 West Huron Street, Chicago, is now

offering a pyrometer of the portable or lance type, of marked interest to the oil industry. Meters are available for three different temperature ranges of 800, 1,600 and 2,500° F. The instruments are of the low resistance type, thereby combining high accuracy in combination with very rugged construction. These new instruments are "streamlined" in conformity with modern tendencies of design. The entire protecting case and handle are a single aluminum casting.

These portable hand instruments serve for checking temperatures in all the applications where a wall type pyrometer is used. For general use their portability offers a distinct advantage. They are of unusual value as exploring instruments to gather heat data in chemical and industrial processes. As "trouble shooters" and as check testers in existing pyrometer installations they have wide applications.

The equipment is said to be ideal for checking temperatures in countless places around the gas plant and oil refinery and in remote locations otherwise quite inaccessible. A bulletin containing complete information is mailed on request.

California Fields

(Continued from Page 138)

the field as a result of their pioneering work. The Mohawk subsequently made up for lost time by acquiring several excellent leases northwest of the original area and these have proven to be the most productive part of the field. Mountain View has proven to be a mighty tough area in which to drill and has proven to be a nightmare as far as any regularity is concerned as it requires very careful engineering to determine the right spot in which to drill a new well.

New Wells

New wells completed in the Mountain View Field this week include the Barnsdall's No. 2 Morris which was brought in flowing 1,225 bbls. per day, Mohawk Oil Co.'s No. 5 Hood, National Oil Co.'s No. 1 Cowan and the Sovereign Oil Co.'s No. 3 S. J. No. 5 Hood, bottomed at 5,760 feet was brought in flowing 1,540 bbls. of clean 26.7 gravity oil per day. The National Oil Co.'s No. 1 Cowan showed an initial daily production of 1,529 bbls. of clean 28.1 gravity oil upon completion at 5,693 feet. This new well was drilled by the Wood-Callahan Oil Co. for the National Oil Co. and it is interesting to note that the original hole was started by the Shell Oil Co. which concern turned it over to the National on a royalty basis. Sovereign Oil Co. recompleted No. 3 S. J. which was given a preliminary production test several weeks ago and this well was returned to production flowing 2,470 bbls. of relatively clean 28.1 gravity oil per day from 6,221 feet.

Kettleman Hills

Two wells were put on production in the North Dome of Kettleman Hills during the current week. These projects were Union's No. 8 Amerada-King and Standard Oil Co.'s No. 58-17-Q. The latter well was a recompletion which had been worked over following a little water trouble which developed several weeks ago following a preliminary production test. It was returned to production flowing 950 bbls. of clean 51.3 gravity oil and 11,567,000 feet of gas per day from 7,807 feet. This well was originally completed in December, 1934, flowing 638 bbls. per day but subsequently bridged over and sanded up. The Union in completing No. 8 King concluded its development program in the North Dome as the development program adopted by operators limited drilling operations to one well to each 20 acres. No. 8 King was completed flowing 12,345 bbls. of clean 29.5 gravity oil per day from 8,525 feet.

In the Midway-Sunset Field of Kern County, the Standard Oil Co. completed No. 25-15-D in Section 15-32-24, brought in flowing 485 bbls. of clean 27.1 gravity oil per day from 2,940 feet after the hole had been finished with an 8⅝-inch water string landed and cemented at 2,825 feet. In the McKittrick Field of Kern County the Franco Western Oil Co. completed its No. 11, showing an initial daily production of 141 bbls. on the beam from 2,312 feet after the hole had been finished with a 6⅝-inch liner including 55 feet of perforated. In the Mount Poso Field the Shell Oil Co. completed No. 4 Glide pumping 624 bbls. of clean 16.4 gravity oil after being finished at 1,824 feet and completed with a 6⅝-inch liner carrying 177 feet of perforated.

Ventura Avenue

The Property Service Corp. appears to have the makings of a good well in No. 4 Dabney-Lloyd, an outpost in the extreme eastern end of the Ventura Avenue Field, as it flowed 187 bbls. of clean 29.4 gravity oil during a seven-hour preliminary production test. The well was killed upon completion of this preliminary test in order to complete the hole with a string of 8⅝-inch casing. It should be back on production again within the next few days. The interest which attaches to the showing of this well lies in the fact that Ralph Lloyd recently negotiated a deal with the Shell Oil Co. for development of several hundred acres immediately east of the Dabney-Lloyd property. The Associated Oil Co. completed No. 23 V. L. & W. flowing 1,124 bbls. of 25.9 gravity oil per day after the hole had been plugged back from 7,417 feet to 7,198 feet but since the output is still showing a rather large cut the company may undertake some additional work.

In the Dominguez Field of Los Angeles Basin, the Union Oil Co. completed No. 16 Callender flowing 218 bbls. of 30.6 gravity oil per day following completion of drilling operations at 5,110 feet. The company has started bailing No. 19 Callender, which has been bottomed at 5,042 feet and this potential producer should be tanking oil within 24 hours. In the Long Beach Field the Chief Oil Co. has completed its No. 2 Signal, brought in pumping 151 bbls. of 26.1 gravity oil per day from 4,923 feet. The volume of production proved to be satisfactory but the well may require some corrective work in as much as production is cutting about 30 per cent water.

Central West Fields

(Continued from Page 132)

has a rig for No. 1 on the Adeline McKinley farm, Section 27, Washington Township.

In Wayne County, McClay Brothers' No. 1 Celia Strodbeck farm, Section 25, Chippewa Township, was dry at 3,706 feet. Ohio Salt Co.'s No. 1 fee, Section 12, same township, is shut down at a depth of 3,125 feet.

In Summitt County, East Ohio Gas Co.'s No. 3 Everette Bexler farm, Section 17, Greene Township, is a gas well at a depth of 4,151 feet. Same company's No. 1 Rosa Lamb farm, same section, is shut down.

In Knox County, Ohio Fuel Gas Co.'s No. 1 is a light oil well, reported at 1 bbl. at 3,101 feet. Same company's No. 1 on the H. H. Scott farm, same section, is dry at 3,102 feet.

In Tuscarawas County, Capital Drilling Co. is drilling No. 6 on the Stewart Asher farm, Lot 19, Washington Township.

In Guernsey County, George Jewell's No. 1 Mary Cunningham farm, Section 28, Millwood Township, is dry at 1,515 feet. Preston Oil Co. is drilling on the Arie Little farm, Section 10, same township. In Wheeling Township, East Ohio Gas Co. is drilling No. 4 Joseph and Retta Cudd farm, Section 1. William Larrick and others are drilling No. 1 Nora A. DeColier farm, Section 1, same township. Miller & Jewell are drilling on the Charles V. Alabaugh farm, Section 27, Oxford Township. Jewell and others are drilling No. 4 Frank Ringer farm, Lot 1, Willis Township. H. P. Muhlback & Son made locations for Nos. 7, 8, and 9, Thomas Stewart farm, Lot 21, also in Willis Township.

In Meigs County, Ohio Fuel Gas Co.'s No. 1 J. J. Ours farm, Lot 30, Lebanon Township, is a gas well at 1,932 feet. Ohio Fuel Gas Co. is drilling No. 1 Earl T. Winters farm, Lot 36, and Houston and others are drilling No. 2 Nicholas heirs farm, Section 30, same township.

TENNESSEE

Three important wells are under way in Fayette County, Tennessee. Hay-Fay Oil & Gas Co. is drilling No. 1, on the Morrison farm, a mile north of Lacona. Mike J. Kissick's test on the Claxton farm, 7 miles south of Staton. Mid-Continent Development Co. is drilling No. 1 Smith farm, 2 miles south of Dancyville.

No completions were reported from Indiana and Illinois.

KENTUCKY

In Ohio County, W. E. Hupp and others' No. 1 Reat Midkiff farm, south of Friendship School, was dry and abandoned. Stewart & Sealey's No. 11 J. H. Roberts farm, in the Oak Station Pool, produced 10 bbls. initial. Snowden-McSweeney Co.'s No. 17 on the J. W. Peckenpaugh farm, produced 5 bbls. initial.

In Hancock County, Joseph B. Mayer's No. 13 on the J. W. Mathews farm, in the southeast corner of the farm, produced an initial of 35 bbls. W. E. Hupp and others' No. 4 Wavie Smith farm, produced 35 bbls. initial. James C. Ellis' No. 6 Smith heirs farm, in the southeast corner of the lease, produced an initial of 65 bbls. Same party's No. 1 in the southeast corner of the L. L. Fuqua farm, is a gas well with 500,000 feet.

Eastern Fields

(Continued from Page 132)

of gas in the top of the Injun sand at 1,985 feet. In the same district, Fred Brown is shut down testing the Injun sand at 2,208 feet on the Ethel Bourne farm. It has a showing of 1 bbl. a day.

In Gilmer County, Steer Creek Oil & Gas Co. has part of the material on the ground for No. 8 on the C. D. Mollahan farm in Center district. McCall Drilling Co. has reached 2,425 feet in No. 2 on the E. G. Rohrbaugh farm. In Dekalb district, Friendly Oil & Gas Co. is rigging up on the H. C. Stalmaker farm.

In Otter district, Clay County, Benedum & Trees shut down the test on the Andrew Tanner farm in the Berea shells at 2,710 feet. It is doubtful if it will be drilled deeper. These operators have made another location about a mile southwest.

In Kanawha County, No. 2 of the Cambridge Gas Co. on the W. A. Compton farm in Lick Branch of Coal River in Washington district has started drilling. In Elk district on Indian Creek, A. E. Cavender and others' No. 2 on the G. W. Harless farm which was showing for a fair gas well in the Salt sand has declined rapidly and it will be drilled to the Weir sand.

In Pleasants County, M. J. Uhl and others have started drilling on the Lafayette Cornell farm on Horse Neck Run in Jefferson district. Tyler Oil Co. is down 700 feet on the William Johnson farm, a test.

In Ritchie County, Russell Morris and others have made a location on the A. C. Scaddon farm in Grant district. In this district New York Petroleum Co. is drilling deeper No. 17 on the J. W. Marshall farm. B. F. Gilmore and others are drilling at 1,764 feet on the William Britton farm. In Clay district, A. R. Leatherman and others have made a location on the C. B. Markle farm. Gainer and others have a location on the Fred Lambert farm. Ralph Roberts and others have a rig standing on the Hayhurst and McGinnis farm. In Murphy district Burk & Deem are down 830 feet on the W. W. Lawrence farm. Clem S. Morris has abandoned the location on the M. S. Drake farm.

In Roane County, on the waters of Mill Creek, Curtis district, K. M. Hunt and others have a rig up on the T. J. Murray farm, located about three-quarters of a mile north of the L. M. Riddle No. 1. In this district, on Peniel Run, W. H. Satterfield has a rig standing on the C. F. Martin farm, 2,000 feet east of the test on the Zora Blaker farm. In Smithfield district, Spencer Natural Gas Co. is rigging up on the R. R. Young farm.

In Tyler County, Smith and Kerns have made a location on the I. T. Hill farm in Meade district. Cease Baker and others have a location on the Armstrong Smith farm in Ellsworth district. Howard Hall and others have a location on the Cora and Ollie Haught farm in Union district.

CLASSIFIED ADVERTISING

Financing

JOHN MORRIS, Seventh Floor, 1237 Market Street, Philadelphia, will help float small deal. No stock selling. Send full facts in first letter.

JAMES E. MILLER CO., 207½ E. Third St., Tulsa, Okla., will co-operate with responsible parties seeking aid in financing projects of higher order.

CENTRAL West Texas Producer has opened new pool and wants to borrow $10,000 for further development of proven acreage. Address Box G-543, The Oil and Gas Journal, Tulsa, Okla.

Testing Service

GAS TESTING

Field tests for gasoline content, orifice meters tested, chart computations. OKLA. METER & GAS TESTING CO. 922 Kennedy Bldg., Tulsa.

Help Wanted

ENGINEER-Salesman Wanted — Acquainted with operators of oil well and industrial contractors' equipment, and requirements of frictions and anti-friction material in Mid-Continent Field. Must have capability, follow instructions, proceed without supervision. Good opportunity for right man with an aggressive growing firm of long experience. Give full information for recognition. Address Box G-508, The Oil and Gas Journal, Tulsa, Okla.

PRODUCTION DEPARTMENT MANAGER—Wanted by progressive independent refiner, experienced in acquiring producing leases and supervising their production. No consideration given to your application unless you state in detail, experience, former employers, salaries earned, and age. Knowledge of East Texas and Texas Gulf Coast fields particularly desirable. Give names of three business references who may be contacted. Address Box G-540, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED—A salesman handling other oil well specialties in the California field to handle a new safety tubing tong on liberal commission. This tong is meeting with large sales in Eastern field. Sales may be handled through supply stores. Address Oil Field Specialties Company, Lima, Ohio.

Situations Wanted

Tech. grad. with 14 yrs. exp. in oil refinery design, construction, maintenance, and efficiency work, desires change. Address Box G-505, The Oil and Gas Journal, Tulsa, Okla.

EXPERIENCED BANK CLERK. Now employed. 15 years' banking experience and 3 in tax office. Wants position as secretary, accountant or anything clerical, where opportunity offers. Address Box G-521, The Oil and Gas Journal, Tulsa, Okla.

NATURAL Gasoline Plant Supt. with 21 years' experience with all types of Natural Gasoline Plants, desires Supt. position. Best of references furnished. Address Box G-503, The Oil and Gas Journal, Tulsa, Okla.

Practical prod. and drlg. Supt. Yrs. of exp. handling prod. and cable tool work, desires position. Box 194, Texarkana, Tex.

LOU RAZEY — Go anywhere your deal. Open Feb. 1st. Address Box G-522, The Oil and Gas Journal, Tulsa, Okla.

Structural Engr., exp. in design, estimating, sales. Wide acquaintance in Mid-Cont. Area; age 42. Address Box G-542, The Oil and Gas Journal, Tulsa, Okla.

Incorporations

CHARTERS—Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

DELAWARE CHARTERS — Fee small; submitted forms. Chas. G. Guyer, 901 Market Street, Wilmington, Del.

Patent Attorneys

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form:
"Evidence of Conception,"
Instructions "How to Establish Your Rights" and complete information FREE!
LANCASTER, ALLWINE & ROMMEL
418 Bowen Building,
Washington, D. C.

Business Opportunities

Opening Denver bulk oil station. Will consider contract for supply gasoline and oils. 1105 Sherman St., Apt. 4, Denver.

CLASSIFIED ADVERTISING

For Sale—Equipment

150—55,000; 37,500; 35,000 BBL. STEEL STORAGE TANKS

Just purchased, will sell where are or cut down and re-erected any place in United States at great saving. Will also accept orders for quantity of sheets any thickness. Several hundred tanks. All sizes.

SONKEN-GALAMBA CORPORATION
64 N. Second Street Kansas City, Kansas.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air Compressor. Six-inch Oster Pipe Threading Machine. Also, large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

4—INGERSOLL RAND Compressors, Type XOB, Two Stage. Low 10"x10", High 4½"x10". Complete with lubricators, inter coolers, etc. Powered by 75 HP G.E. Induction Motor.
1—75 HP GENERAL ELECTRIC Induction Motor.
1—24'x60'x12' High Wood frame sheet iron Engine Room. Address Box G-510, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE
AND WANTED TO BUY
Good Used Compressors, Diesel Engines, Boilers, Derricks, Hoists, Tanks, Pipe, Rail, Cars, Locomotives, Cranes. MISSISSIPPI VALLEY EQUIPMENT Co., 501 Locust St., St. Louis, Mo.

60 MILES of 3" line pipe, like new. Part of pipe 9 lb. tubing, stencil marks still legible. Price 18c per ft. f.o.b. cars Clarksburg. Wright Brothers, Clarksburg, W. Va.

LET US rewind your Electric Motors and equipment. Work guaranteed. Rawls Electric Works, Abilene, Texas.

FOR SALE—Bull wheels, calf wheels, friction and chain driven sand reels. I.T.I.O. Company, Bartlesville, Okla.

FOR SALE—Five miles 4", 1600-lb. test line pipe, practically new. 5,000' of 9⅝" o.d., 40-lb., Grade "D" seamless A.P.I. casing, once run, practically new condition. Priced right for quick sale. Address Box G-541, The Oil and Gas Journal, Tulsa, Oklahoma.

FIVE 300-amp. engine-driven Lincoln welders. Also stock of electric motor-driven welders. Service Co., 3732 Cedar, Cleveland, Ohio.

Equipment Wanted

WANTED TO BUY
In large quantities. Junk tank tops from large storage tanks or used corrugated roofing. PAWNEE COUNTY LUMBER CO., Pawnee, Okla.

WE ARE in the market for several strings of used heavy long joints three-inch drill pipe with tool joints on, also several strings four-inch. Must be in good condition. Advise price and location.
THE BRIDGEPORT MACHINE COMPANY
WICHITA, KANSAS.

Wanted

Wanted—Financial Co-operation, development of 3,000 ac. blk.; Mich. shallow territory. Good prop. to responsible party. Write if interested and can invest. P. O. Box 67, Mount Pleasant, Mich.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Leases—Production

OFFSET leases and royalty in the new Jackson County, Oklahoma, play. Hub of the State's new development in shallow production. Write for particulars. G. E. Fisher, 518 Key Bldg., Oklahoma City, Oklahoma.

For Sale—Equipment

Leases—Production

Coastal Louisiana Leases, blocks, royalties in this very active area bought and sold. 208 Weber Bldg., Lake Charles, La.

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

NEW MEXICO—My weekly scout report furnishes complete and reliable information on New Mexico developments. Send for copy. W. S. Patterson, Santa Fe, N. Mex.

BUY LAND—2½ acres, clear deed, for $75, $5 down, $5 month, in California's next prospective oil and gas field. Price will advance to $100 Feb. 1, 1935. Well down 660 ft. now. Kimbrough, 729 San Fernando Bldg., Los Angeles, Calif.

WHAT ABOUT 1935?
You, probably, want to buy or sell leases around drilling wells, production or royalty and have no reliable source of supply. You might finance a likely wildcat. We, on the ground, need an outlet. Meritorious propositions often go begging. This ad is intended to break the ice, and open negotiations. If you are prepared to exchange bank and other references and able to function, we would appreciate a line from you.
So. Land and Exp. Co.,
P. O. Box 33, Tyler, Texas.

OIL Lease SE¼ 15-11N-3W, OC field, for a well and small oil payment. Production all around. Owner, 904 First Natl. Bank Bldg., Oklahoma City, Okla.

20-acre lease under well being drilled on structure and between production. Long lived wells at initial 5,000 bbls. per month from the 1,000-ft. horizon. Entire 20-ac. tract $1000 cash, and $5000 in oil. Will repay half cash if lease fails to produce. Nicolle, Box 903, Houston, Texas.

Royalties—Production

Producing Oil Royalty, listed under Federal Security Act, paying monthly income in half acres and upwards at reasonable prices. P. O. Box 35, Tulsa, Oklahoma.

Royalties—Production

BETTER CLASS
MONTHLY PAYING ROYALTIES
Quoted Dealers Exclusively.
W. E. COOK
Suite 812, Palace Bldg., Tulsa, Okla.

PRODUCING OIL ROYALTIES
for dealers.
H. P. BOWEN
842 Kennedy Bldg., Tulsa, Okla.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood. P. O. Box 2261, Tulsa, Okla.

Producing Oil Royalties
at wholesale.
ROBERT L. KINKAID, INC.
Petroleum Bldg., Oklahoma City, Okla.

KANS., Okla., Tex. Producing Royalties. Also spreads under drilling wells. Merit Royalties, R No. 3, Topeka, Kans.

ROYALTIES producing and nonproducing in Kansas, Oklahoma and Texas. James R. Haynes, Grantville, Kansas.

BROKERS — SALESMEN
Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. Complete set of Forms and Reports for filing with Securities and Exchange Commission accompanies every order. Inquiries invited.
B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

WE OFFER 1¼ royalty acres Fletcher Smith 80 acre tract, Van Pool, 10 wells, price $3,750 for this interest, earnings averaging $45 month for the last year period. E. T. Marion Real Estate Co., 407 Southwestern Life Insurance Bldg., Dallas, Texas.

NEW OIL WELLS and new locations is putting the old time feeling back in this part of the Texas panhandle. I am giving my clients, new and old, the same dependable help that I have given them for the past thirty years in this place in Oil land and other investments.
E. B. REEVES
(Investments)
Alanreed, Gray County, Texas.

PRODUCING OIL ROYALTIES
Bought (Wholesale) Sold
Inquiries invited from Oil Companies, Bankers, Dealers.
M-K OIL COMPANY, INC.
20 Broad St. New York.

Royalties—Production

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

Income Producing Royalties
Mid-Continent Field
Harry A. George
Exchange Bank Bldg., Tulsa, Okla.

VAN POOL OIL ROYALTY
Bought — Sold
Box 38, Wall Street P. O., New York.

DEALERS IN ODD LOTS
EAST TEXAS AND VAN POOL
PRODUCING OIL ROYALTIES.
We Buy and Sell.
E. T. MARION REAL ESTATE CO.
407 Southwestern Life Ins. Bldg.
Dallas, Texas.

PRODUCING ROYALTIES
for
DEALERS ONLY
Write for Details on $165,375.00 Registered royalty issue, which is now ready for sale to the public.
CHESTER IMES
First National Bldg.,
Oklahoma City, Okla.

LAND in Fee, All royalty close in. 10 Acres up. Near new locations. Owner, Geo. W. Seckman, Edmond, Okla.

VAN POOL — EAST TEXAS
Bought — Sold — Wholesale.
W. R. Brown & Co., Inc.
14 Prospect St., East Orange, N. J.

J. A. WOLF AND COMPANY
105 West Adams Street
Chicago, Illinois
Dealers in Oil Royalties since 1918.

Low priced leases Royalties near Permian Basin. Wildcats being drilled by Majors and Independents. 50 to 1 chances quick money. E Croft, Proctor, Texas.

ELIMINATE all dry wells. Many offsets can be improved. Wells located in heart of pool. Salary and percentage basis. Only parties or companies capable of developing need answer. P. O. Box 15, Springfield, Missouri.

UNUSUAL DISCOVERIES at shallow levels being made in Archer and North Young Counties, Texas. I have several Blocks on good geology and desire to sell interest or acreage. Desire communicate with parties wanting to get in on new production.
B. H. HILBURN
915 Hamilton Bldg.,
Wichita Falls, Texas.

EAST TEXAS
PRODUCING OIL ROYALTY
We offer 4 Royalty acres Calvin Brown fee McCurry and Outlaw Surveys. Gregg County, Texas, at $1250. Base Price. There are 10 wells. Arkansas Fuel Oil Co. operating. December check $48.70. Firm bids close to quoted price will be considered.
E. T. MARION REAL ESTATE CO.,
407 Southwestern Life Ins. Bldg.,
Dallas, Texas.

Wanted—Producing property or proven acreage, from owner direct. Not for resale or brokerage. P.O. Box 87, Yale, Okla.

FOR drilling blocks in Bowie County near Texarkana, Texas, and Miller Co., Ark., write Box 194, Texarkana, Texas.

I STILL HAVE good producing royalties in Van and East Texas. Will sell on five days' draft anywhere with full reports and, etc. Will buy royalties in Texas and Oklahoma. Own and will sell twenty-acre lease in Upshur County, East Texas Field, offsetting good well that came in January 24th. Must be drilled within ninety days. Details on application. Also have for sale unproven, non-producing royalties under major companies, very reasonable. P. R. Knickerbocker, 3237 Westminster, Dallas, Texas.

Classified Rates

Classified Advertising rates are 35 cents a line for the first insertion and 25 cents a line for each additional insertion, PAYABLE IN ADVANCE.

Six words usually constitute a line.

Compute white space at line rate.

Minimum of three lines accepted.

	1 time	2 times	3 times	4 times
3 lines	$1.05	$1.80	$2.55	$3.30
4 lines	1.40	2.40	3.40	4.40
5 lines	1.75	3.00	4.25	5.50
6 lines	2.10	3.60	5.10	6.60
7 lines	2.45	4.20	5.95	7.70
8 lines	2.80	4.80	6.80	8.80
9 lines	3.15	5.40	7.65	9.90
10 lines	3.50	6.00	8.50	11.00

To avoid delay be sure to send remittance with copy. Over payments will be refunded. One time insertions will not be run until fully paid.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

Display Rates

Classified Display Advertising set in similar style to this Ad or in two-column style is as follows:

1 inch ..... 1 time $5.00
1 inch ..... 13 times 4.50
1 inch ..... 26 times 4.00
1 inch ..... 52 times 3.50

PAYABLE IN ADVANCE
MONTHLY

One-point borders and 10-point capitals are allowed; larger type not accepted.

To avoid delay be sure to send remittance with copy. Over payments will be refunded. One time insertions will not be run until fully paid.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma.

DESIGNED to *Serve*

The *facilities* of The Fort Worth National Bank *are designed* to serve the Oil Industry in all its branches—in a *practical, efficient* and *understanding* manner.

If your business demands such service, may we discuss your requirements?

The FORT WORTH NATIONAL BANK
FORT WORTH, TEXAS

CONSTANT

research in field and laboratory, the use of superior crude oils, and the most modern refining equipment are the three stones in the foundation upon which Humble quality has been built.

HUMBLE
OIL AND REFINING COMPANY

HOUSTON, TEXAS

Producers, Transporters, Refiners and Marketers of Petroleum and Its Products.

Index to Advertisers

A

Abercrombie, J. S., Co.
Air Reduction Sales Co.
Air Spray Painting Co., Inc.
Allegheny Steel Co. 144
Allsteel Products Mfg. Co., The 2
Amerada Petroleum Corporation 112
American Cable Co.
American Cast Iron Pipe Co.
American Iron & Machine Works Co.
American Meter Co.
American Steel & Wire Co. 100
Anderson-Prichard Oil Corporation 119
Auer, C. L., and W.W.
Axelson Manufacturing Co.

B

Baash-Ross Tool Co.
Baker Oil Tools, Inc. 129, 135
Baroid Sales Co. 56
Barrett Co., The 97
Barret, William M., Inc. 78
Bethlehem Steel Co.
Boston Woven Hose & Rubber Co. 41
Bowen Air Lines, Inc.
Bradford Motor Works, Inc.
Brewster Co., Inc. 139
Bridgeport Machine Co. 37
Broderick & Bascom Rope Co. 46
Brown Instrument Co., The 77
Brown Strauss Corporation 93
Byron Jackson Co. 31

C

Cameron Iron Works, Inc.
Case, J. I., Co.
Caterpillar Tractor Co.
Chain Belt Co. 1
Champion Machine & Forging Co. 32B
Chaplin-Fulton Mfg. Co., The 142
Chapman Valve Mfg. Co., The ..... Inside Back Cover
Chemical Process Co., Inc., The 73
Chicago Bridge & Iron Works
Cities Service Oil Co.
Classified Advertising 159
Cleveland Hardware & Forging Co., The 63
Combustion Engineering Co., Inc. 78
Continental Oil Co.
Continental Supply Co., The 32B
Cooper-Bessemer Corp., The 15
Coppus Engineering Corp. 91
Crane Co. 29
Curtin, W. H., Co.

D

Darling Valve & Mfg. Co.
Dart, E. M., Mfg. Co.
Davis Regulator Co.
Dean Core Barrel Mfg. Sales & Service 79
Devine, J. P., Mfg. Co., Inc.
Doheny Stone Drill Co.
Dowell Incorporated
Dresser, S. R., Mfg. Co. 149
DuPont DeNemours & Co., Inc., E. I.

E

Eagle-Picher Lead Co.
Economy Electric Lantern Co.
Edward Valve & Mfg. Co., Inc., The
Elliott Core Drilling Co.
Emsco Derrick & Equipment Co.
Everstick Anchor Co.

F

Filtrol Co. of California
First National Bank & Trust Co. of Tulsa, The 4
Fisher Governor Co.
Fluid Packed Pump Co.
Fort Worth National Bank, The 160
Four Wheel Drive Auto Co., The
Foxboro Co., The 69
Francis, Bro. & Co. 143

G

Gardner-Denver Co.
Garlock Packing Co., The
Gasoline Products Co., Inc. 67
Gates Rubber Co.
General American Transportation Corp. 124
General Electric Co.
General Motors Truck Co.
Gilbert & Barker Mfg. Co.
Goodyear Tire & Rubber Co., Inc.
Gott, H. P., Mfg. Co.
Grant Oil Tool Co. 112
Graver Tank & Mfg. Corp.
Great Lakes Fuel Corporation, Distributors for Great Lakes Coal & Coke Co. 78
Greenspon's Son, Jos., Pipe Corp.
Guiberson Corp., The 108
Gulf Refining Co.

H

Halliburton Oil Well Cementing Co. ..... Front Cover
Hanlon-Buchanan, Inc.
Harrisburg Pipe & Pipe Bending Co.
Hazard Wire Rope Co.
Hecter, C. M., Sons Co.
Heiland Research Corporation
Hercules Motors Corporation
Hewitt Rubber Corporation
House, A. F.
Houston Oil Field Material Co., Inc. 129
Hughes Tool Co. ..... Back Cover
Humble Oil & Refining Co. 160
Hydril Co.

I

Illinois Steel Co. 75
Ingersoll-Rand Company 83
International Harvester Co. of America

J

Jarecki Manufacturing Co. 17
Jenkins Bros. 138
Jerguson Gage & Valve Co.
Johns-Manville Corporation 93, 111
Jones & Laughlin Steel Corp.
Jones Co., The S. M.

K

Kellogg, M. W., Co., The 99
Kennedy Valve Mfg. Co., The 89
Key Boiler Equipment Co. 53

L

Landis Machine Co., Inc.
Larkin Packer Co. 143
Lincoln Electric Co., The
Linde Air Products Co., The 70
Link-Belt Company 51
Louisiana Supply Co. 129
Lucey Products Corp.
Ludlow Valve Mfg. Co., The 142
Lufkin Foundry & Machine Co.
Lummus Co., The 87
Lunkenheimer Co., The

Mc

McCord Radiator & Mfg. Co. 128
McEvoy, J. H., & Co. 129

M

MacClatchie Manufacturing Co. 126
Macwhyte Co.
Magnolia Petroleum Co.
Maloney Tank Mfg. Co. ..... Inside Front Cover
Manhattan Rubber Mfg. Division, The 85
Martin-Decker Corp.
Mason-Neilan Regulator Co.
Mepham Corp., Geo. S. 136
Merco Nordstrom Valve Co.
Miller, Max B., & Co., Inc.
Mission Mfg. Co.
Monsanto Chemical Company 90
Moore, Lee C., & Co., Inc.
Murray-Brooks Hdwe. Co., Ltd. 129
Muskogee Iron Works

N

National Bank of Tulsa 21
National Lead Co.
National Supply Co., The
National Transit Pump & Machine Co.
National Tube Co.
New Deal Specialty Co., Inc., The
Norvell-Wilder Supply Co. 129
Nugent & Co., Wm. W. 127

O

Oil Center Tool Co. 118
Oil Conservation Engineering Co. 95
Oil Equipment & Engineering Exposition
Oil Well Supply Co. ..... 18 and 19
Oklahoma Gas & Electric Co.
Oxweld Acetylene Co. 70

P

Pacific Pump Works
Parkersburg Rig & Reel Co., The 103
Parsons Co., The Ralph M. 117
Penbarthy Injector Co.
Petroleum Building 123
Pittsburgh Steel Company 59
Prest-O-Lite Co. 70
Pure Oil Co., The

R

Reading Iron Co. 89
Reed Roller Bit Co. 45
Republic Rubber Co., The 49
Republic Steel Corp. (Upson Nut Division)
Republic Steel Corp.
Roebling's, John A., Sons Co. 131
Rubloff & Co., Arthur 123
Ryerson & Son, Inc., Joseph T.

S

Seismograph Service Corporation 89
Shaffer Tool Works
Shell Union Oil Corp.
Sherwin-Williams Company, The 105
Smooth-On Mfg. Co. 111
Snetcher & Pittman, Inc.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Sperry-Sun Well Surveying Co. 82
Staynew Filter Corp.
Supplementary Code Authority of the Wire Rope and Strand Manufacturing Industry

T

Taubman Supply Corp.
Taylor Forge & Pipe Works 110
Taylor Instrument Companies
Texas Iron Works
Thermoid Rubber Co., The 86
Timken Roller Bearing Co. 39
Timken Steel & Tube Co.
Tretolite Co.
Tube Turns, Inc. 139
Tulsa Camera Record Co.
Tulsa Chamber of Commerce
Twin Disc Clutch Co.

U

Union Carbide & Carbon Co. 70
Union Carbide Sales Co. 70
Union Wire Rope Corp.
U. S. Steel Corp. Subsidiaries 18, 19, 75, 100
Universal Oil Products Co. 13
Utility Trailer Manufacturing Co.

V

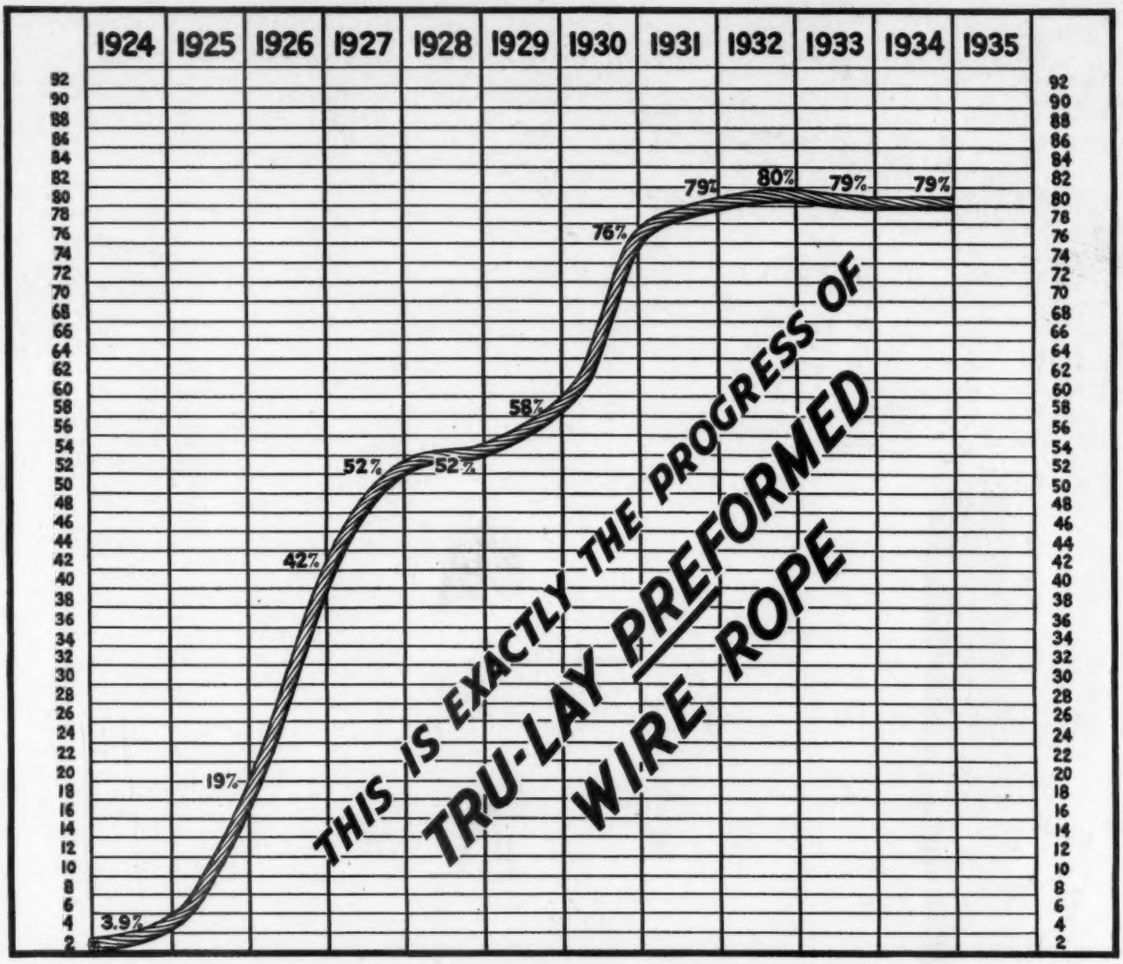
Vellumoid Co., The
Vogt, Henry, Machine Co.

W

Walworth Co. 147
Warren Petroleum Co. 107
Waukesha Motor Company 107
Weil Machinery & Supply Co.
Williams & Co., C. K. 136
Williams & Co., J. H. 94
Williamsport Wire Rope Co.
Wilson Supply Co. 130
W. K. M. Co., Inc. 129
Wyatt Metal & Boiler Works 121

Y

Youngstown Sheet & Tube Co., The 32A



TRU-LAY Preformed Wire Rope was introduced by the American Cable Company, Inc., in 1924. For many years we had made a high grade non-preformed rope and we still make it under brand name of "Crescent." In fact, non-preformed was the only type made and sold by any manufacturer from the production of the first wire rope in 1846 to the year 1924 when the American Cable Company perfected and introduced Tru-Lay Preformed.

During 1924, the first introductory year of Preformed Wire Rope, "Tru-Lay" accounted for 3.9 per cent of American Cable Company's entire sales volume.

Once in actual service, "Tru-Lay" proved itself so far superior to the non-preformed type of wire rope that by 1925 it commanded 19 per cent of the American Cable Company's volume. In 1926, Tru-Lay jumped to 42% of the total; then in 1927 to 52%; 1928—52%; 1929—58%; 1930—76%; 1931—79%. Since then it has been hovering around that high percentage.

Gentlemen, those figures prove that "Tru-Lay Preformed" gives longer service.

We will gladly send you either literature or a representative, without obligation

AMERICAN CABLE COMPANY, Inc.

Wilkes-Barre, Pennsylvania

District Offices: Atlanta Chicago Denver Detroit New York Philadelphia Pittsburgh Houston San Francisco

ACCO

TRU·LAY *Preformed Wire Rope**

* PREFORMING IS A PATENTED MANUFACTURING PROCESS APPLICABLE TO ANY TYPE, GRADE, CONSTRUCTION AND LAY OF WIRE ROPE

ANN ARBOR MICHIGAN
University of
Michigan,
General Library,
Ann Arbor, Mich.

FROM THE HARDEST TO THE SOFTEST FORMATIONS...*use* HUGHES CORE BITS FOR *Uncontaminated* CORES

- Remember Hughes Hard and Soft Formation Core Bit Heads are interchangeable, only ONE Core Bit Body being necessary to core the complete range of formations.

HUGHES TOOL COMPANY

SERVICE PLANTS:
LOS ANGELES, CALIF.
OKLAHOMA CITY, OKLA.
MIDLAND, TEXAS

MAIN PLANT AND OFFICE:
HOUSTON,
TEXAS

EXPORT OFFICE:
30 ROCKEFELLER PLAZA
NEW YORK CITY